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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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NEW NAVAL INCREASE.

Secretary Long has practically determined to accept the naval programme prepared by the Board of Bureau Chiefs, for presentation to Congress, and embody it in his annual report. As stated in the Army and Navy Journal, there will be no recommendation for battleships, owing to the unsettled armor situation, nor probably none for torpedo boats and destroyers, on account of the difficulty firms now building these craft have experienced in securing structural steel and the delays which will follow their completion. Instead of presenting the board's plan, in part to Congress later, the Secretary has decided that it would have greater effect perhaps, to make the recommendations in his report, with the strong probability that the President in his annual message will endorse that part of it. From the highest authority it is learned that Secretary Long will ask for these vessels, three immense armored cruisers, of not less than 13,000 tons displacement, the finest of their class afloat. There are now two armored cruisers in the navy, and but three authorized. In addition he will ask for three protected cruisers of about 8,000 tons, or improved Olympias, though much larger, and a dozen gunboats of the class suggested by Admiral Dewey. This programme provides for eighteen ships in all. The gunboats are required for foreign service and the protected cruisers for flagships abroad when battleships are not present. It seems questionable, however, whether Congress will be willing to authorize so many vessels, especially when it is called upon to vote \$18,000,000 for ships already building and authorized.

CANADIAN TONNAGE.

According to the annual report of the Dominion Minister of Marine, the total number of vessels remaining on the register books of the Dominion on the 31st December, 1898, including old and new vessels, sailing vessels, steamers and barges, was 6,643, measuring 693,782 tons register tonnage, being a decrease of 41 vessels and a decrease of 37,972 tons register, as compared with 1897. The number of steamers on the registry books on the same date was 1,909 with a gross tonnage of 267,237 tons. Assuming the average value to be \$30 per ton, the value of the registered tonnage of Canada, on the 31st December last, would be \$20,813,460.

The number of new vessels built and registered in the Dominion of Canada during the last year was 278, measuring 24,522 tons register tonnage. Estimating the value of the new tonnage at \$45 per ton, it gives a total value of \$1,103,490 for new vessels.

NEW WAR VESSELS.

The Naval Board on Construction adopted, on Nov. 17, a program for increasing the navy which will involve an expenditure of about \$20,000,000, distributed over a period of three years. It provides for three armored cruisers of about 13,500 tons displacement, three protected cruisers of about 8,000 tons displacement, six light-draught gunboats of about 1,000 tons displacement, and six light-draught gunboats of about 800 tons displacement.

A FERRY BOAT RUN BY STORAGE BATTERIES.

Isaac L. Rice is president of the Electric Boat Co., which owns several valuable storage patents. The first work of the company will be the building of a heavy ferry boat, operated by a storage battery, which will probably be experimented with around Philadelphia. Should the experiment prove a success, the company will make a feature of this line. Other large, short-distance craft will also be experimented with. The Electric Boat Co. will also organize a number of sub-companies for the purpose of operating launches and boats at the several summer resorts, where water forms a principal attraction.

APPROVAL OF THE CHICAGO DRAINAGE CANAL.

At a conference between the trustees of the Sanitary District of Chicago and the inspection commission appointed by the governor of Illinois, held on 23d inst., the latter body made known the information that the work of the Sanitary District had been found satisfactory in all essential respects and that a report of approval will be forthcoming as soon as it can be finished. According to the inspection commission the canal as built will provide for a flow of 360,000 cu. ft. of water per minute, which exceeds the requirements of the law. A comparatively small amount of rock and earth excavation, some dredging in the Chicago river, the removal of the coffer dams at Adams and Van Buren street by-passes, in Chicago, and a considerable amount of work in connection with dam No. 1 at Joliet, yet remains to be done; but whether the trustees of the canal will be permitted to turn on the water before completing all of the detail work not absolutely essential to the establishment of the channel has not yet been decided.

TO RAISE LAKE ERIE.

It is seriously proposed to raise the level of Lake Erie two or three feet by damming Niagara river near the city of Buffalo, and it is said that a favorable report on the scheme will be made by the board of army engineers that has been investigating its feasibility.

Lake Erie is the shallowest of the lakes. Its shores are sandy and approach to them gradual; so the question is whether it would be cheaper to construct a dam or to continue dredging. Raising Erie three feet would, it is believed, raise Lake St. Clair two feet and Lake Michigan one foot.

Raising Lake Michigan would allay the uneasiness that is felt concerning the withdrawal of a part of the water of the lake into the Chicago canal. An interesting feature of the forthcoming report will be the estimated expense of the damming project.—The Duluth News-Tribune.

REAR Adml. Melville, U. S. N., has recently asked for an opinion as to whether warrant machinists of the Navy shall be classified as "line officers," and thus entitled to wear the star indicating that rank on their sleeves. In an opinion rendered by the Attorney General this week it is held that warrant machinists cannot be considered as line officers. The opinion states, however, that boatswains and gunners are rated as "line officers." It has generally been recognized in the Navy that these latter classes were to be put in that list.

AN AMERICAN CREW.

One of the most satisfactory statements in the report of the disaster to the Hamburg-American Line steamer Patria, is the simple note that most of the crew were Americans. This vessel, bound from New York to Hamburg, was burned on Wednesday, off Dover, England. So swift was the spread of the flames in the early morning, that the passengers, including many women and children, six of the latter being babes in arms, had no time to secure their clothing before hurrying into the boats. The Buffalo Courier announces that no such scenes were enacted as attended the wreck of the Scotsman, and as have disgraced humanity on other similar occasions. On the contrary, the discipline was splendid, and the crew behaved like heroes. All the passengers were saved. A large steamer later came up and offered to take off the captain of the Patria and his men, but as the latter were willing to stay by him, Capt. Froelich determined to endeavor to put his ship ashore at some point of the coast where there would be a chance of saving her hull. This plan evidently was attended with much danger, as the iron plates of the vessel were in places red hot. As the press dispatch says, "the scheme is a bold one that does credit to a gallant crew."

PILOTAGE OF NAVY VESSELS.

Special Circular No. 54, Navy Department, Oct. 11, 1899, publishes a decision of the Judge Advocate General on the question asked by the Bureau of Equipment "as to whether or not State laws in regard to compulsory pilotage are applicable to national vessels." In reply J. A. Gen. Lemly quotes from the decision in the case of Josiah Ayres vs. Robert Knox, 7 Mass., 305 and 16 Atty. Gen. Opin., 647, quoting and affirming that decision. The Judge Advocate General says:

"These two cases seem to have been the only exceptions to a universal recognition of the rule that vessels of the navy are not subject to local pilotage laws. Congress, by an act approved Sept. 19, 1890, gave authority to the Secretary of War to make such rules and regulations for the navigation of the South Pass of the Mississippi as he might deem necessary or expedient for the purpose of preventing any obstruction to the channel or injury to the works therein. The Secretary of War, in the exercise of this authority, has not prescribed any rule or regulation requiring the employment of pilots by vessels navigating the pass.

"I conclude, therefore, vessels of the Navy are not required to take pilots, and are subject to local pilotage laws."

"The within decision concerning pilotage does not apply to vessels entering harbors outside of the limits of the United States.

CHAS. H. ALLEN, Acting Secretary."

THE DOMINION MARINE.

The Dominion Department of Marine granted during the past year certificates of competency to 63 masters and mates of foreign sea-going vessels. Twenty masters and mates of inland and coasting vessels received certificates of service, while 297 certificates of competency were granted for the same class of marine work.

During the year 197 wrecks and casualties were reported as having occurred in British, Canadian and foreign sea-going vessels in Canadian waters, and in Canadian sea-going vessels in other waters.

THE output of coal in the United States last year was 219,974,667 tons, or about 20,000,000 tons more than the corresponding production in 1897. The value of last year's output at the mines was computed at £41,600,170. The United States now produce 30 per cent. of the annual coal output of the world.



CLEVELAND.

Special Correspondence to the Marine Record:

Capt. James Calbick, Chicago, visited this port on vessel business on Monday.

I learn that the Snider-Hughes Co., of this city, has an order for 77 steam pumps, 20 of which are to be shipped to Shanghai and 27 to Hong Kong.

Mr. Newman has resigned as local manager of the American Ship Building Co. He will probably go East and take charge of one of the shipyards on the coast.

The Acme Machinery Co., manufacturers of automatic bolt cutters, bolt and rivet headers, etc., has just completed a two-story, fire-proof extension, 50x140 feet, which will be used as a machine shop. The extension will employ about sixty extra workmen.

That irrepressible general passenger agent of the Cleveland & Buffalo line, Mr. Herman, is now out with an illustrated card entitled "Gathering up for the Season." The card shows a smiling and charming young lady gathering up the four boats of the fleet in her arms and giving notice that it is all off for the season in the freight and passenger service. Mr. Herman is a hustler; he is also original, and a daisy where passenger business by lake is concerned.

Maj. Blount, in charge of Toledo harbor, recently approved plans for the extension of the dock line on the west side of the Maumee river from 30 to 165 feet towards the channel. It develops that 90 per cent. of this reclaimed land will belong to the heirs of original owners who retained riparian rights. The reclaimed ground is valued at \$1,500,000. The foregoing has been widely announced, but I would suggest that there is no "Major" in charge of Toledo harbor. There is, however, a ci-devant insurance agent who delights in villifying the marine interests, including builders, owners, brokers, managers, masters and pilots. Mr. Blount seems to be more than pushing.

It is learned that the Pittsburg, Bessemer & Lake Erie has over 400,000 tons of ore in stock at Conneaut harbor, enough to supply traffic for about five regular daily freight trains for the winter. There is enough ore at the docks to load 2,000 trains of 2,000 tons each, or about 5,000 40-ton cars. In addition to the ore, the company has arranged to handle a large amount of freight from the Carnegie Works which will be delivered to the connecting lines. The road has been handling a very heavy traffic for seven months, and the surplus ore which accumulated during the period of navigation at the Conneaut docks will supply a good source of revenue until the lakes are open again.

The late weather forecast official at this port is thus spoken of in a Havana daily: The weather in Cuba is usually the most stable thing one encounters. The clerk of the sky-operations seems to occasionally come around, adjust the machine to rain, drought or wind, and then go off on a raid in other regions with his cyclones, blizzards and deluges. Nevertheless there are times when the machinery clogs, or spurts, and there is a vaudeville performance of iluvias, vientos and tempestas. The American government has undertaken to establish its unrivaled weather report system in the West Indies for the benefit of the island people and the foreign visitors. The work was entrusted to Capt. W. B. Stockman, one of the most skilled, accurate and trusted meteorological scientists of the National Bureau, and he has performed his labors with an intelligence and effectiveness worthy of the highest praise. His reports have won ready recognition as the most reliable published in Cuba, and his reassuring telegrams against various storm and hurricane alarms have been most valuable to both landmen and mariners. The Havana Journal presents these admirable and trustworthy observations daily for the benefit of the public.

The following data, covering a period of 28 years, have been compiled from the Weather Bureau records at Cleveland, Ohio. Month of December for 28 years, temperature: Mean or normal temperature, 31; the warmest month was that of 1889, with an average of 42°; the coldest month was that of 1876, with an average of 20°; the highest temperature was 68°, on December 31, 1875; the lowest temperature was 12°, on Dec. 22, 1872; average date on which first killing frost occurred in autumn, Oct. 11; average date on which last killing frost occurred in spring, May 1. Precipitation (rain and melted snow): Average for the month, 2.63 inches; average number of days with .01 of an inch or more, 16; the greatest monthly precipitation was 5.50 inches in 1873; the least monthly precipitation was 0.84 inches in 1871; the greatest amount of precipitation recorded in any 24 consecutive hours was 1.87 inches, on Dec. 12, 1873; the greatest amount of snow fall recorded in any 24 consecutive hours (record extending to winter of 1884-85 only) was 6.6 inches, on Dec. 3, 1893. Clouds and weather, average number of clear days, 3; partly cloudy days, 9; cloudy days, 19. Wind, the prevailing winds have been from the southwest; the highest velocity of the wind was 48 miles from the northwest, on Dec. 18, 1896.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

The tug B. B. Inman is now undergoing repairs for fire damage. She was only partially burned.

The Bessemer line steamer Douglas Houghton will load about 250,000 bushels of wheat this week. This is an indication that the ore-carrying season is nearly over.

One of the deals pending in Duluth at present is the prospective transfer of the Marinette Iron Works at West Duluth. The work of taking an inventory of the plant is now in progress.

Beginning Dec. 1, the rate on soft coal from the head of the lakes to St. Paul and Minneapolis will go up from 75 to 90 cents a ton. The rate on hard coal will not be disturbed, at least for the present. It is likely that the coal companies will make this an excuse to put up the price of soft coal 30 to 40 cents a ton.

The local steamboat inspectors have suspended Capt. Albert Kent, of the tug Industry, on account of the collision which took place between the Lake Michigan and Lake Superior liner Peerless and the schooner Stewart last September, in which the Peerless was sunk. The Industry was towing the Peerless at the time. The masters of the tug towing the Stewart and the tug towing a raft were exonerated.

A dispatch from Chicago says that it is expected all policies on Al lake steamers will be extended to Dec. 5 for steel and wood, without extra cost for premiums after Nov. 30. There are a few policies extending from last season to Dec. 12. For A2 boats and sail and tow barges, insurance will expire Nov. 30. Many of the boats that are now clearing for the lower lakes will not come back to Lake Superior this season.

In the Menominee district, Oglebay, Norton & Co., Cleveland, have taken a May prospect. The deal has been in consideration for some time, but is now closed. This gives this company four mines, Alpha, May, Hollister and Bristol, besides some prospects, all near Crystal Falls. The Minnesota Iron Co. are examining the Porter lands near Crystal Falls, on which they have had options for some months at a 5-cent royalty.

The average freight rate during 1898, Duluth to New York and common points, lake and rail, was a little less than 17½ cents per 100 pounds. The tariff rate was as high as 17½ cents, and as low as 15 cents. With the rate of 17½ cents the proportion that goes for terminal and rail charges at and east of Buffalo is 10.71 cents, leaving 6.79 cents for the lake haul. The all rail rate during the winter of 1897-1898 was about 25 cents per 100 pounds on the average. The maximum rate was 30 cents, and the minimum 22½ cents.

Major Clinton B. Sears, Corps of Engineers, U. S. A., has received word from the Secretary of War, that the proposed new harbor lines for the Duluth-Superior harbor have been approved. The major planned the new harbor lines and public hearings were held in Duluth and Superior a few weeks ago, to hear protests from property owners. Col. Barlow, of New York, who is in charge of this division, presided at the hearings and recommended that the harbor lines be adopted as planned by Major Sears, who is one of the most skillful and scientific men in the service of the Corps of Engineers, U. S. A.

During the season of 1898 the coal brought to the head of the lakes amounted to 2,250,000 tons. Of this amount there remained on the docks at the close of navigation 1,200,000 tons, 300,000 tons of anthracite and 900,000 tons of bituminous. The average valuation of the soft coal on the dock is \$2.25 per ton. Thus the 900,000 tons on the dock represented an investment of \$2,025,000. The average valuation of the anthracite is \$3.75, or an investment of \$1,125,000 for the 300,000 tons. The amount invested in coal on the docks at the head of the lakes at the close of navigation is thus shown to have been \$3,150,000.

The shipments of ore from Minnesota for the season have been so increased by the continued mild weather that it is likely that they will reach close to 8,000,000 gross tons. For this month nearly 1,000,000 tons will be shipped from Duluth, Two Harbors and Superior, which is more than double the November record of any preceding year. The season will end in shipping from the Duluth & Iron Range road, 3,900,000 tons, Duluth, Missabe & Northern, 3,300,000 tons, Eastern Minnesota, 875,000 tons. The Gogebic range is shipping heavily but the Marquette and Menominee are easing up for the year but will be more than brisk next season.

The Daily Commercial Record shows how we stand here in the following report. Record breaking ore shipments from a Lake Superior ore dock on the 20th of November gives one an idea of present weather conditions and incidentally throws some light on the capacity of the lake fleet. This was done Sunday when the Two Harbors docks loaded 42,000 tons of ore into several boats in 11 hours. There is little or no doubt now that the season's ore shipments will reach 17,500,000 tons, or 1,500,000 tons more than the estimate made in August, and this excess of 1,500,000 tons is just equal to the total grain shipments from this port during the record breaking months of September, October and November of 1898, and one-third more than the total Lake Superior grain shipments for the same three months this year. We do not want to be understood as intimating that there is anything weak in the present situation, on the contrary, it is exceptionally strong. There is any amount of ore offering, and grain markets are in a healthy condition and will pay the going rate of freight, whatever that may be.

It is learned that remedies for New York's gradual slump from the position of America's premier grain export city were asked of representative Chicago dealers this week by a committee from the Empire state. The consensus of opinion among the merchants who appeared before the delegation, was that the metropolis' hopes for renewed western trade lay in the reconstruction of the Erie canal and the granting of railroad and transfer rates that at least would equal those of other Atlantic ports. The members of the commission after a brief sojourn left for Minneapolis, thence they will proceed to this port where they will complete the western end of their itinerary. It is their purpose to secure the required data and prepare their report in time for the coming session of the New York state legislature. The commission consists of the following: Charles Schiener, chairman; Benjamin F. Fairchild, counsel; Alexander R. Smith, Andrew H. Greer, C. C. Shayne and Hugh Kelly. The first three named have undertaken the task of securing the information and suggestions in the West while the others are confining their inquiry to New York, Pennsylvania and Ohio. It may be said that the inquiry is a most inclusive one and all that can be, will be brought out.

In Minneapolis, this week, Judge Lochren, of the United States court, will hear the case of Capt. W. H. Singer against the steamer Arthur Orr and cargo. It is a suit for salvage in connection with the rescue of the steamer and her cargo from the rocks at Baptism river last November. Capt. Singer claims salvage to the amount of \$18,000. The underwriters wished to settle with him on the same basis that they settled with the Inman Tug Co. The latter was paid so much a day for the use of the company's tugs and no effort was made to collect salvage. Capt. Singer considered that he had a clear case of salvage and demanded it. On the basis of settlement made with the Inman Tug Co., Capt. Singer's claim would have been inside of \$2,500. H. R. Spencer, of Duluth, will represent the steamer Arthur Orr in the case to-day at Minneapolis, and Davis, Hollister & Hicks will represent Capt. Singer. D. G. Cash will represent the cargo of the steamer under controversy. The claim for salvage is based largely on the exposure of valuable tug and wrecking property on the north shore for a considerable time during a time of year when storms may be expected to take place frequently. The libel of Capt. Singer declares that the work of rescuing the ship and cargo was very hazardous. It is not expected that Judge Lochren will deliver judgment for several days after the hearing of the case.

CHICAGO.

Special Correspondence to The Marine Record.

A winter route is to be kept open between Milwaukee and St. Joseph, and active transportation carried on.

Capt. Stewart, of the steamer City of Milwaukee, announces that he will sail for England on December 11 to investigate the steamer recently built at the Parsons yards, and fitted with the turbine engines. The steamer has a record of 42 miles an hour.

The Chicago Steam Engine Works, 64 Michigan street, manufacturers of marine and stationary engines and castings of all kinds, are enjoying a prosperous year. They are figuring on several contracts at present and yet have a lot of work on hand, but the idea is to keep going and have orders well ahead.

After eight years' experience in the use of oil as fuel the South Chicago plant of the Illinois Steel Co. will return to the use of gas in its furnaces. Large brick conduits for the passage of the burning gas from the iron mains to the furnace beds are now being built and the completion of the work is expected before the end of the month.

According to the Bureau of Coal Statistics, receipts of anthracite coal by lake at Chicago from November 1 to November 10, as compared with those of last year, show a decrease; rail receipts have increased. Shipments have also increased. Bituminous coal receipts at Chicago for the same period and comparison as above have increased on every grade while the increase for the year to date on all kinds amounts to nearly 1,250,000 tons. Shipments have also greatly increased. As the season of lake navigation draws to a close for 1899, it is apparent that stocks of dock coal on the western lakes will be very much less than they were a year ago. November opened with a stock in Chicago of about 345,000 tons, or half the amount of a year ago, of which 80,000 tons only was chestnut.—less than 25 per cent. As there is but less than one week more for vessels to leave Erie ports with regular underwriters' lake insurance it will be seen that the shortage of anthracite will be large. Quite a fair proportion of coal received this month at Chicago has been forwarded to the country and more would have been had the car supply been better.

COLLINGWOOD, ONT.

Special Correspondence to The Marine Record.

At a largely attended meeting of the Board of Trade, held here, the proposition to grant a bonus of \$50,000 to the proposed steel shipbuilding company was endorsed. Voting will take place on the 30th. The close of navigation is now in sight. The last steamers of the Northern Navigation Co. will leave here for ports on the "Soo" route and Fort William and Duluth on Saturday, the 25th. The fall trade has been one continual rush, every steamer leaving port with a full load. This company has decided to increase their tonnage by building a large freight steamer, during the ensuing winter.

DETROIT.

Special Correspondence to The Marine Record.

The Cherokee and Chippewa are being stripped for the winter at Marine City.

The old wooden steamer St. Paul will be placed in winter quarters here this week.

Ben Hargrave, a sailor on the steamer Ira H. Owen, hailing from this port, fell from aloft on Monday while the steamer was lying at Erie, Pa. He died from the effects of his injuries.

The schooner Sunshine, 370 tons, built at East Saginaw in 1856 and still classed and rated has gone into winter quarters. She was rebuilt in 1883 and is still a fairly good old bottom.

Capt. James Corrigan, of Cleveland, who has bought a large number of vessels this season, has added two more vessels to his fleet. He bought the schooner Ashland from D. Whitney, of Detroit, and the steamer Quito from the Tonawanda Iron and Steel Co. The price was not named.

Insurance agents do not wish to extend lake policies at any terms. November 1 and December 5 is the season limit and the rates for an extension will be almost prohibitory. The marine insurance companies rule the season and not owners, builders, shippers, masters or pilots, not even the various government departments, or judges of the Supreme Courts can make the season one day longer than the underwriters desire.

A vessel well imbedded in sand is a difficult object to release. Barry Bros., of Chicago, who purchased the stranded schooner Sophia Minch and spent several thousand dollars in trying to float her have now let the contract to James Reid. It was thought all along that the Barry's would accomplish what they started out to do but they will have an expensive and costly old schooner on their hands when Capt. Reid gets the Minch afloat for them.

OTTAWA.

Special Correspondence to The Marine Record.

An adverse decision has been given the Michigan lumbermen who brought a test case into the Ontario courts, to settle the dispute over the power of the Ontario Government to forbid the export of logs from that province into this country. The case was dismissed with costs. It will probably be appealed and carried through the higher courts until a final decision is given by the Privy Council of Great Britain. The argument of the Michigan lumbermen was that the licenses under which they had purchased timber limits in Ontario previous to the order forbidding the export of logs, and which are renewed from year to year, should not be affected by the order; also that the regulation of international trade devolves upon the Dominion Government exclusively, and that any interference in this trade by the Ontario Government is thus unconstitutional. Justice Street, in his decision of the case, holds that the province of Ontario owned the timber on the limits for which licenses to cut logs were sold to the Michigan lumbermen, and that the Ontario Government has full control of these limits and therefore has the right to impose upon purchasers such conditions as they deem proper, with regard to the destination of the timber after it is cut, including the state from which it shall be exported. When the Ontario Government forbade the export of logs from that province, some couple of years ago, it provided the only means acceptable to the lumbermen of Canada for retaliation upon the form of competition in the trade given by the Dingley tariff. Only from the Georgian Bay district were logs being taken to this country in large quantities. The Dominion Government refused to take action in the matter because of the provision of the Dingley tariff for doubling the import duties on lumber coming from a country forbidding the export of logs into this country. When the Ontario Government took individual responsibility, there was raised a delicate question as to whether the Dominion Government became committed. To test this question the Michigan lumbermen requested the Ontario Government to permit the submission of a case to the courts. The Ontario Government demurred for a short time, and then acquiesced. Following quickly upon the published decision of Justice Street comes the announcement that the Ontario Government has forbidden the export of nickel and copper ore or matte. This will compel the manufacture of nickel armor plate in Canada. The Ontario Government is endeavoring to persuade the British Government to form a partnership for the manufacture of nickel armor plate. But a short time ago an order forbidding the export of pulp wood from public lands in Ontario went into force. If it should happen that the Privy Council decides that the Ontario Government has been acting unconstitutionally in forbidding the export of raw material, the question of damages to Americans who have purchased the lumbering and mining licenses in that province, will become a question for the provincial treasurer to look into.

ASHLAND, WIS.

Special Correspondence to the Marine Record.

A new record was made on Tuesday for loading iron ore into boats for this port. The rate is now 2,000 tons per hour. The barge George E. Hartnell received a cargo of 5,000 tons in two and a half hours to-day at the Wisconsin Central docks.

BUFFALO.

Special Correspondence to The Marine Record.

The India and Japan, of the Anchor line, are in winter quarters here, and the China is making her last trip. The steamer Baldwin and consorts Carpenter and Burman are in winter quarters at Black Rock.

Coal has been shipped quite lively this week and a total of 105,000 tons is an easy showing. Chicago took about one-third of this and Milwaukee and Duluth fully another third, while the rest was distributed between several of the minor ports.

Lake freights as quoted run about this way, although Green Bay has had two cargoes at 5 cents better: Chicago, 75 cents; Milwaukee, 75 cents; Duluth, 50 cents; Racine, 85 cents; Waukegan, 75 cents; Toledo, 50 cents; Green Bay, 75 cents; Gladstone, 50 cents.

Fuel is now up to \$2.75 and not enough can be procured for the ordinary traffic out of the port. It is not thought that there is any desire to deprive vessels, but the coal is not here, nor can the agents get it, and steamers go with just enough to carry them to the next fueling port.

The acquisition of property and dock frontage, adjoining its present holdings by the Tonawanda Iron and Steel Co., is preparatory to the erection of two additional blast furnaces, at least so it is understood here this week, and that the Tonawanda Iron and Steel Co. is a factor that must be figured with in the near future.

A bottle floated ashore at Erie, on Monday, containing this message, under date of October 10, 1897: "S. Idaho sinking, all on board, no one saved. Cook." The steamer Idaho was lost on Lake Erie two years ago with nearly all on board and the best authorities are of the opinion that the message is genuine, although being such a length of time before discovered.

Shipments of coal westward by lake from Buffalo last week aggregated 104,720 tons, distributed as follows: Chicago, 44,100 tons; Milwaukee, 25,750 tons; Duluth-Superior, 24,500 tons; Racine, 2,300; Waukegan, 2,100 tons; Depot Harbor, 2,050 tons; Toledo, 1,350 tons; Green Bay, 1,200 tons, and smaller amounts to other ports. Freight rates 75 cents to Lake Michigan and 50 cents to the head of the lakes.

FLOTSAM, JETSAM AND LAGAN.

Mr. Thomas Henry Ismay, the founder, and chairman of the board of directors of the White Star Line Steamship Co., died suddenly last Thursday evening, at Liverpool. He was born Jan. 7, 1837.

The contract for constructing the League Island drydock, at Philadelphia, has been awarded by the Navy Department to the Atlantic, Gulf & Pacific Co. This company has received the award upon a bid of \$782,000.

The marine underwriters made a good thing on grain insurance the past season. The losses were trivial, while the business was large. Last year, on the other hand, was a bad year for the marine insurance people.—American Elevator and Grain Trade, Chicago.

An International Salvage Congress will be held at the Paris Exhibition, on July 17, 1900. The programme includes the consideration of salvage in mid-ocean, collision, signaling, pigeon post, and salvage off the coasts. It is possible that a similar arrangement can be made in the lake service.

Capt. Hans Hanson has resigned his position as keeper of the light-house and fog signal stations, at the mouth of the river, to take immediate effect. Capt. Chas E. Young, formerly light-house keeper at Algoma, has been appointed to succeed him. Capt. Young will be in the city in a few days and take charge of the station.—The Eagle, Marinette, Wis.

An exchange says: "That is a good yarn they are telling of Admiral Dewey, who, while at Manila, accumulated a big pile of coal at Cavite. One day one of the bureau chiefs sent him this cablegram: 'What have you bought such an enormous quantity of coal for?' The return cable didn't cost the Government much for cable tolls. It read: 'To burn.'"

A factory was burned at Wautagh, L. I., a few days ago, and with it 10,000 stuffed sea gulls, 20,000 wings of other birds, and 10,000 heads of birds of different kinds. This was only one factory. One man, during one season in Florida, shot 141,000 birds for this trade. It is high time that this wholesale slaughter was stopped.—Leader, Cleveland, O.

The Black Diamond, the leading coal and trades journal of Chicago and New York, states that one dollar and ninety cents was paid per ton for vessel charters between Newport News and New Haven, Conn., last week. This rate would show that coal is carried on the lakes simply for ballast, and the RECORD can not too strongly deprecate the now almost established custom of making the down cargo pay for that carried west.

Since a fourteen feet depth of water has been secured in Canadian canals, it is possible for a steamship of a moderate draught to run from Chicago to Liverpool by way of Montreal. Not to be behind its opportunities, a line of three steamships is reported as being organized to run between the Windy City and the great seaport on the Mersey, with a quay space of twenty-five miles. Outside the period of closed navigation, it is not unlikely that considerable traffic may be diverted from other ports to the new route. It is the begin-

ning, however, of a movement that may yet result in a canal connection to the Mississippi with the lakes, and thence to deep-sea navigation.

On the 22d inst., telegraph messages were transmitted by the Pollak-Virag system of rapid telegraphy from Chicago to Milwaukee and return at the rate of 122,000 words an hour. On the same day a test was made on a line extending from Chicago to Buffalo and return—1,062 miles—in which messages were successfully sent at the rate of 90,000 words an hour. Owing to the fact that it was not possible to get all the apparatus into position, the results of the tests were not as satisfactory as could have been expected had the conditions been otherwise. The tests were conducted under the supervision of the inventors.

Acting under instructions from the Secretary of the Navy a board has made an investigation as to the facilities of the Burlee Dry Dock Co., of Staten Island, for competing with other firms in the matter of building the ships of the Denver class, on which this company were bidders in the recently concluded competition. The report is quite exhaustive and finds that the company possesses the necessary facilities for doing the work within the time specified in the contracts. It does not follow from this report, however, that the Burlee Co. will secure a contract.—Army and Navy Journal, New York.

The track of the longest-lived storm in the history of the American Hydrographic Office—the hurricane of September—is plotted on the October chart of the North Atlantic Ocean. The blow started August 3, midway between South America and Africa, and north of the equator. It swept the West Indies from September 7 to 10, and was off Florida September 14. It struck Cape Hatteras September 17, and passed Cape Henry September 19, and then put out to sea and swept the Atlantic to the coast of France, occupying a period of 19 days. The storm traveled across the ocean, and was last heard of in Italy. This was the hurricane that blew 160 miles an hour at Cape Hatteras.

The North German Lloyd steamship Kaiser Wilhelm der Grosse arrived in New York on the 22d inst. from Cherbourg, France, after a passage of 5 days, 17 hours and 27 minutes, beating her own best record by 11 minutes. The average hourly speed was 22.9 knots. The daily runs were as follows: 388, 548, 552, 535, 552 and 475 miles, making a total of 3,050 nautical miles. This vessel holds other ocean records, namely, the eastward record to Plymouth of 5 days, 15 hours and 10 minutes, with an average speed of 22.61 knots, and the eastward record to Southampton—5 days, 17 hours and 18 minutes. On her trip from Cherbourg she carried 600 cabin passengers and 633 steerage passengers.

Reports are current to the effect that the wreckers employed by the Cendoya Co., of Cuba, found \$190,000 in Spanish gold in the wrecked cruiser Almirante Oquendo. The money is reported to have been found in the safe, which fell to the bottom of the hold when the vessel was burned. This wrecking firm has been employed during the last six months in stripping the Spanish war vessels destroyed by Americans in the battle of Santiago, and a commercial firm which has furnished the diving apparatus, has paid the men a stipulated price per pound for brass and copper recovered. It is said that a controversy has arisen between the wreckers and the agents of the commercial concern, over the rightful ownership of the money found.

The Naval Academy practice ship Chesapeake will be placed in commission at the Boston Navy Yard on Dec. 2, and on Dec. 18 will have her official trial trip. After this is concluded the ship will receive her full equipment and then will probably be sent on a short cruise prior to assignment permanently to Annapolis. This vessel has sail power alone, and is one of the most gracefully designed ships of the service. Her bow resembles the clipper ship of the old days and her great spread of canvas is expected to send her through the water with a quarter wind at 12 knots or more. This ship has a record to beat for sailing ships in the Navy, and if she does as well as the beautiful Constellation in her best sailing days, when she often reeled off thirteen and fourteen knots, the naval men will be pleased. This craft with the gunboat Annapolis will serve the naval cadets as their cruising ships in the summer.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 10TH DISTRICT,
BUFFALO, N. Y., Nov. 25th, 1899.

Notice is hereby given that the lens of the Galloo Island Shoal gas-buoy No. 1 has been badly damaged, that it will not be practicable to re-light the lamp before navigation closes this year.

Navigators are therefore cautioned that this buoy cannot be relied upon during the remainder of the present season.

By order of the Light-House Board:

FRANKLIN HANFORD, Comdr. U. S. N.,
Inspector Tenth Light-House District.

Collision—Sailing Vessels Meeting—Change of Course—Under the sailing rules governing the navigation of the lakes (28 Stat. 645, rules 16, 20), which require a vessel running free to keep out of the way of a vessel closehauled, and the latter to keep her course and speed, the luffing half a point by a vessel closehauled on approaching one running free, and the subsequent falling off half a point, do not constitute a change of course, within the rules, so as to render her in fault for a collision. The Emily B. Maxwell, 96 Fed. Rep. (U. S.) 998.

THE DRAINAGE OF SEWAGE INTO THE MISSISSIPPI.

The approaching completion of the Chicago drainage canal, through which the sewage of a great city will find its way into the Mississippi, is exciting considerable anxiety and public interest. The discharge of offensive and polluting matter into a stream that is bordered with numerous hamlets, towns and cities, finding its way through magnificent distances, and through an empire of States to a debouching point in the Gulf, is a matter the importance of which cannot well be over-estimated. The sewage of Chicago with a population approximating two millions of people, and with it the drainage of stock yards and slaughter houses, the waste water of manufacturing establishments, and other numerous sources of contamination, represents enough of diluted fluids and excretion to float a squadron of battleships. The discharge amounts to millions of gallons a day, and however opinions may differ as to the flotilla of disease germs making its voyage seaward, there is certainly good ground for apprehension as to its effects on public health, even if in its remoter distances the nuisance is less menacing or apparent. The presence of typhoid fever in St. Louis is being accounted for by many experts as due primarily to the sewage through the Illinois and Michigan canal and the Desplaines and Illinois rivers. This pumping of sewage is going on at the rate of from fifty to sixty thousand gallons a minute, and this is but a leakage in the hoghead to what it will be when the bottom is knocked out of the cask. The Chicago river is a sluice of putrid fluids. Its flow is sluggish and is only stimulated by artificial inflows and by occasional freshets and floods. This, however, is insufficient to clarify the fetid fluid and remove from the public nose its putrid offensiveness. To dispose of this nuisance, the drainage canal is being constructed, by which the Chicago river and the Illinois river will be connected, and these to the Mississippi river that will have to swallow what Chicago forces down its throat. What the effects may be when the currents of the Mississippi and Illinois rivers slacken in times of drought, or when they are boxed up in ice during severe winters, remains to be seen. Nor is it unlikely that the fishing industries may have an experience in store, in which the empty net will simply mean either the death or migration of the finny shoals that up to date have furnished employment and food to a multitude of citizens. Conjecture has ample elbow-room in this and other matters, the real point at issue being the vital question of pure water and public health.

To such a city as St. Louis, drawing its water supply direct from the Mississippi, the matter is one of serious moment. It has enough of dirt to swallow already, and when this is added to by bacteria-infected fluids, it may be found that mud in solution is less dangerous than poison-germs in a hydrant. It would seem by the statements made by experts, that some kinds of bacteria refuse to give up the ghost either in cold or heat, and that a swim from Chicago to St. Louis is not likely to bring about early death. Be this as it may, should the drainage canal be completed and a huge mass of city filth be turned loose in the Mississippi, the question of filtration will be one of self-protection. This is a matter that both in this country and Europe has engaged the attention of engineers, scientists and municipal authorities. Where certain conditions make the pollution of streams unavoidable, the only remedy lies in purification. Various methods have been adopted to secure this object, and all of them with more or less success. In Philadelphia endorsement of a loan for \$12,000,000 for a filtration plant and new mains has been won at the polls. Other cities have been and are taking the water question into serious consideration, the objective point being pure water and public health. These are more intimately related than many suppose. Municipal and sanitary history is full of facts bearing on this essential point. Disease and epidemics have in many cases been traced directly to impure water supplies, and will continue to be so, if there is any relaxation of vigilance on the part of those in authority. Should the drainage canal materialize, as it seems likely to do, the only course left will be to minimize the danger by some effective means of purification.—The Age of Steel, St. Louis, Mo.

A JONAH ABOARD SHIP.

It does not take a long series of misfortunes overtaking a ship to convince her crew that a lineal descendant of Jonah and inheritor of his disagreeable qualifications is a passenger. So deeply rooted is this idea that when once it is aroused with respect to any member of a ship's company,

that person is in evil case, and, given fitting opportunity, would actually be in danger of his life. This tinge of religious fanaticism, cropping out among a class of men who, to put it mildly, are not remarkable for their knowledge of scripture, also shows itself in connection with the paper upon which "good words" are printed. It is an unheard of misdemeanor on board ship to destroy or put to common use such paper. The man guilty of such an action would be looked upon with horror by his shipmates, although their current speech is usually vile and blasphemous beyond belief. And herein is to be found a curious distinction between seamen of Teutonic and Latin races, excluding Frenchman, says the London Spectator.

Despite the superstitious reverence the former pay to the written word, none of them would in time of peril dream of rushing to the opposite extreme, and, after madly abusing their Bibles, throw them overboard. But the excitable Latins, after beseeching their patron saint to aid them in the most agonizing tones, repeating with frenzied haste such prayers as they can remember, and promising the most costly gifts in the event of their safely reaching port again, often turn furiously upon all they have previously been worshipping, and with the most horrid blasphemies, vent their rage upon the whilom objects of their adoration. Nothing is too sacred for insult, no name too reverend for abuse, and should there be, as there often is, an image of a saint on board, it will probably be cast into the sea.

A TALK TO FARMERS.

In an address at Springfield, O., last week, before the National Grangers' Association, Mr. Alex. R. Smith, New York, said in part as follows:

The population and the wealth of Great Britain are only half as large as our population and our wealth. The natural resources of this nation are many, many times superior to those of Great Britain. And yet this great, big, rich and resourceful nation must depend upon the smaller, poorer and less resourceful—but more powerful—British Nation!

One hundred and six years ago Thomas Jefferson, then Secretary of State in the Administration of President Washington, in submitting to Congress, at its request, a report on commerce and navigation, referring to the latter, said:

"Our navigation involves still higher considerations. As a branch of industry it is valuable; but as a resource of defense essential. The position and circumstances of the United States leave them nothing to fear, from their land-board, and nothing to desire beyond their present rights. But on the seaboard they are open to injury, and they have there, too, a commerce which must be protected. This can only be done by possessing a respectable body of citizen seamen, and artists and establishments in readiness for ship-building. If particular nations grasp at undue shares and more especially if they seize upon the means of the United States to convert them into aliment for their own strength and withdraw them entirely from the support of those to whom they belong, defensive and protective measures become necessary on the part of the nation whose marine resources are thus invaded, or it will be disarmed of its defense, its productions will be at the mercy of the nation which has possessed itself exclusively of the means of carrying them, and its politics may be influenced by those who command its commerce. The carriage of our own commodities, if once established in another channel, cannot be resumed in the moment we desire. If we lose the seamen and artists whom it now occupies we lose the permanent means of marine defense, and time will be requisite to raise up others when disgraces or losses shall bring home to our feelings the disgrace of having abandoned them."

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo.....	1,350,000	537,000	456,000	327,000	866,000
Chicago.....	14,324,000	2,504,000	872,000	368,000	56,000
Detroit.....	798,000	198,000	221,000	9,000	25,000
Duluth.....	8,196,000	93,000	186,000	322,000	431,000
Fort William, Ont..	1,719,000				
Milwaukee.....	174,000		2,000	7,000	1,000
Port Arthur, Ont....	98,000				
Toledo.....	2,041,000	1,028,000	515,000	8,000	
Toronto.....	45,000		4,000		61,000
On Canal.....	789,000	576,000	111,000	38,000	418,000
On Lakes.....	1,374,000	495,000	956,000		898,000
Grand Total.....	55,936,000	11,572,000	5,917,000	1,498,000	3,556,000
Corresponding Date, 1898.....	23,369,000	22,263,000	5,586,000	1,139,000	3,898,000
Increase.....	1,935,000	512,000		136,000	437,000
Decrease.....			208,000		

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

LITERARY NOTICES.

Among the recent publications of the Astronomical Society of the Pacific is a pamphlet by Ensign Everett Hayden, U. S. N., on "Clock-rates and Barometric Pressure as Illustrated by the Maritime Clock and Wall Chronometers at the Mare Island Observatory."

The November number of The Century opens up a new volume, and marks a new era in its history. The number has a handsome colored cover, while the history of Cromwell, by John Morley, which is begun in this number, is also illustrated in tint, as are several other articles. Capt. Joshua Slocum's narrative of his trip around the world in the Spray is continued, and as his voyage proceeds it grows in interest. In the present installment he tells of his visits to the island of Juan Fernandez and Samoa. Other writers whose work appears in the same issue are Mark Twain, Dr. Weir Mitchell and Governor Roosevelt.

Leslie's Weekly remarks on the fact that the party conventious, in their efforts to utilize military glory, have skipped the sailors while honoring the soldiers. No naval hero, says the Army and Naval Journal, New York, except Stockton, who won a little fame, but only a little, in the Mexican war, was ever conspicuously mentioned in connection with the Presidential candidacy, and he was made impossible in 1852, the next canvass after his retirement from the Navy, by the fact that both parties had selected military heroes that year—Pierce and Scott; while in 1856 the new issue which had come to the front through the repeal of the Missouri Compromise in 1854, put the Mexican war and its participants far in the background.

In Harper's Weekly, of Nov. 11, Ensign C. L. Poor, U. S. N., describes with illustrations our miniature colony of Guam. To the navy people this spot in mid-Pacific ought to be a special object of interest since it is the only possession of the country that has been entirely under naval authority. We have heard much of army control since the Spanish war gave us island interests, but Ensign Poor tells us that if "run on true naval principles of order, thoroughness, cleanliness, and discipline, Guam should become a model colony." Apprehensions as to leprosy will be dispelled by the Ensign's report that "there is little of it on the island—not over a dozen cases;" and that in a population of between 8,000 and 9,000. These few cases have been segregated and the naval writer believes that "with improved American medical service and sanitation, we should be able to stamp it out entirely."

"Where Angels Fear to Tread" is the title of a book of short sea stories by Morgan Robertson, no doubt familiar to our readers as a writer of peculiar force and versatility. This work contains yarns suited to the tastes of all who love the sea—in books. There are yarns of the yacht, of the merchantman, and of that marvel of science and destruction, the modern battleship. Then there are yarns of the seaman—the "common Jack"—as he is seen board ship and in the boarding-houses of the world. It is said that Robertson's stories are exaggerated, and upon the strength of that characterization he has been called the "American Kipling," the "American Russell," etc. This is a view naturally tough to the landsman and, considering its basis, a very fine compliment to the alleged prototypes. But, in the view of the seaman, Robertson's work, so far as it deals with the American deepwater seaman and the American bucko, is not exaggerated, and he is, therefore, not of kin with the Kiplings and the Russells. Morgan Robertson is a distinctly and uniquely American writer, and he depicts conditions as only an American Robertson can. "Where Angels Fear to Tread" will be valued by the general reader of sea literature for its own merits, and by seamen for its obvious "purpose" as well as for its merits. The Century Co., New York, are the publishers.

With the December number Harper's Magazine begins its hundredth volume, and enters upon the last six months of its fiftieth year. Half a century ago Harper's Magazine, as the announcement of the four Harper Brothers reads, "was projected and commenced in the belief that it might be made the means of bringing within the reach of the great mass of the American people an immense amount of useful and entertaining reading matter, to which, on account of the great number and expense of the books and periodicals in which it originally appears, they have hitherto had no access." The original plan of the publishers then was to make the new periodical simply a literary digest, and for the first six months its pages were filled entirely with matter reprinted from English magazines and from current books. The success of the Magazine so surpassed the expectations of the publishers, that at the beginning of the second volume they felt themselves in a position to institute a new feature. During the second year, in each number appeared at least one original article. This innovation proved so acceptable to the Magazine readers that it was continued and developed, and in a few years the periodical consisted entirely of original matter. Half a century makes a vast difference both in magazines and the tastes they supply—a difference which could only be understood by a comparison of the first number of Harper's with the elaborate Christmas number which has just been received, and which, as has been said, opens the hundredth volume. The Christmas number, by the way, ought to be remembered for a long time, if for only one thing, that is Mark Twain's short story, "The Man that Corrupted Hadleyburg." The majority of readers will probably consider this the best tale Mark Twain has ever written; in any case, whoever fails to read "The Man that Corrupted Hadleyburg," will have missed one of the things that make life worth living.

MECHANICS IN THE NAVY.

The British Admiralty are experiencing great difficulty in obtaining the requisite number of skilled mechanics to properly man their vessels. We quote from an English exchange as follows:

"Previous arrangements made with the object of attracting a regular supply of properly-qualified engine-room artificers for the navy having quite failed, and the establishment being about 500 below the necessary number, the Admiralty, on the advice of Mr. William Allan, M. P., Gateshead, have adopted a plan in which Great Britain has been mapped out into five marine engineering districts. In each of these districts is to be appointed an Admiralty agent, who must be a consulting engineer in touch with all the marine engineering works in the district, and consequently in the best position to obtain and select the best men. A substantial salary, as well as a capitation grant, is to be paid to each agent. The Admiralty approved Mr. Allan's plan, and it has been put into operation, and the experiment will be tried for at least one year."

They are also having the same difficulty in retaining the services of competent civilian engineer talent, these matters having become so serious as to attract most serious attention.

While a similar state of affairs does not obtain to any great extent as yet in our own navy, it is becoming a matter of comment that the Navy Department, more especially in the department of engineering, has some difficulty in retaining the services of competent civilian talent, and while the enthusiasm and chances for prize money in the late war attracted a sufficient number of mechanics, it is a question if the monotonous conditions of peace will not create a scarcity of desirable material wherewith to man our vessels. It is true that the conditions of enlisted men in our navy is much better and offers better pay than is the case in the services of other countries. But it would be wise to take care in keeping the service attractive to enlisted skilled labor, for modern naval vessels are manipulated by machinery exclusively, and the seaman has been succeeded by the mechanic, and these mechanics are in a position to demand better conditions of service than was offered to the seamen of the past.

In this connection it is singular that the naval school at Annapolis does not pay more attention to marine engineering, and go the extent of assigning to part of each class of graduates commissions as ensign engineers, from whence they shall rise to lieutenant engineers, etc., as in the fighting branch of the service. Certainly unless something on this order is inaugurated, there will come a time when the distinction of class between commissioned officers and civilian engineering talent will make the latter hesitate in entering the service. The enlisted mechanic also has, by his training, come to a realization of the necessity for his services, and unless the service is kept attractive may not care to enter it.

SUSPENSION OF COASTING LAWS.

OTTAWA, ONT.

Special to The Marine Record.

E. B. Osier, M. P., and B. M. Britton, M. P., headed a delegation that waited on the Government on Thursday, and protested against the suspension of the coasting laws on the lakes.

In addition to declaring that the suspension was illegal, the delegates pointed out that it would ultimately destroy Canadian shipping and Canadian ship building. It was also shown that it was not necessary. Mr. Osier pointed out that only one American boat took advantage of it.

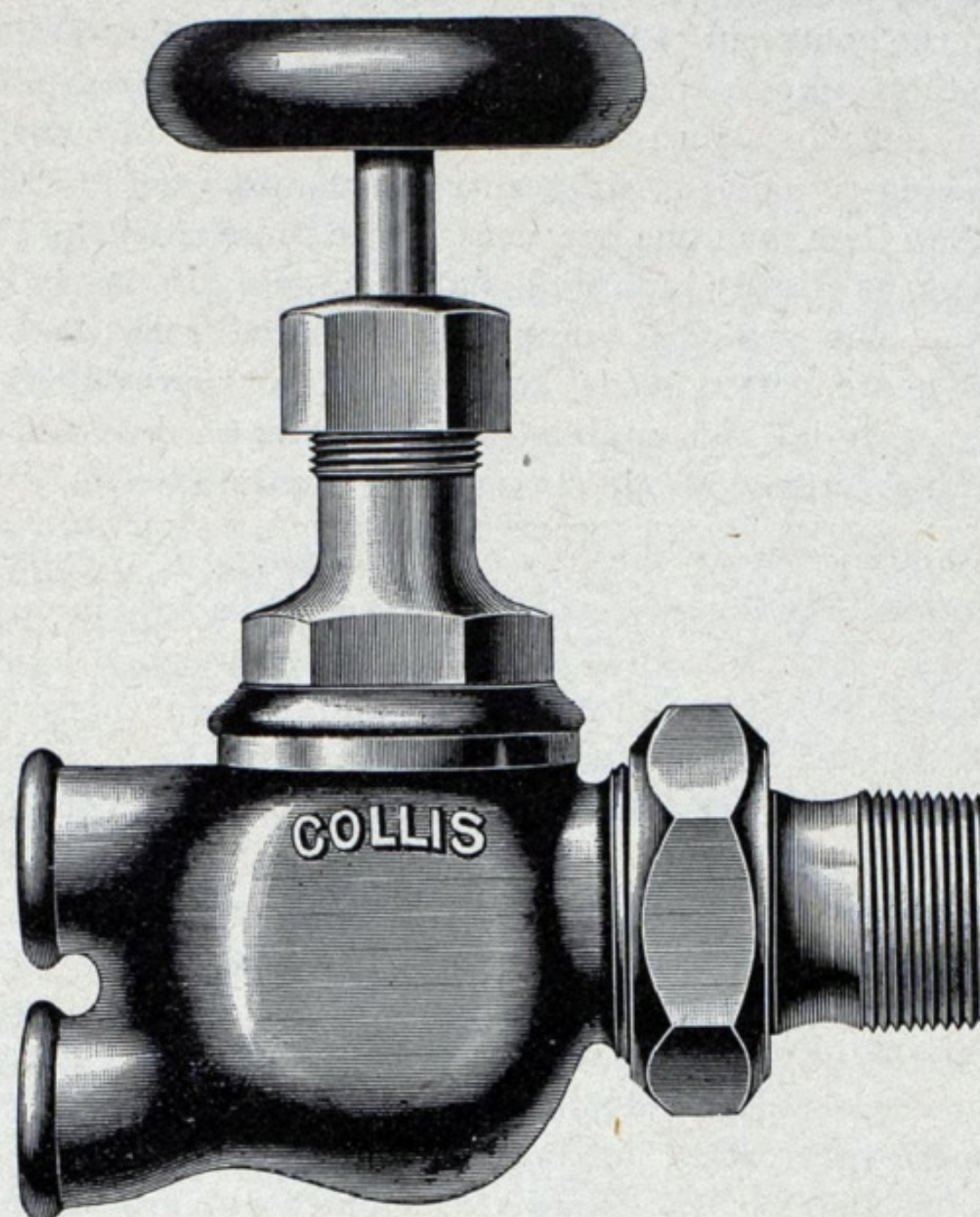
Sir Wilfrid Laurier said that the other side of the question would have to be heard. However, the Government had only changed the law temporarily, and had no intention of making it permanent. The delegation insisted upon temporary reciprocal privileges as the smallest returns which ought to be admitted.

THE Bureau of Statistics of the Treasury Department has, during the past year, made renewed efforts to obtain from persons sending merchandise from the United States into Canada a specific statement of the final destination of shipments, and it is believed that much of the apparent reduction in the exportation of corn, wheat and flour to Canada is due to the fact that during the present year shipments of this class into Canada destined for European ports were so designated instead of being, as too frequently happened in former years, simply declared as exports to Canada.

THE COLLIS VALVE.

(ILLUSTRATED.)

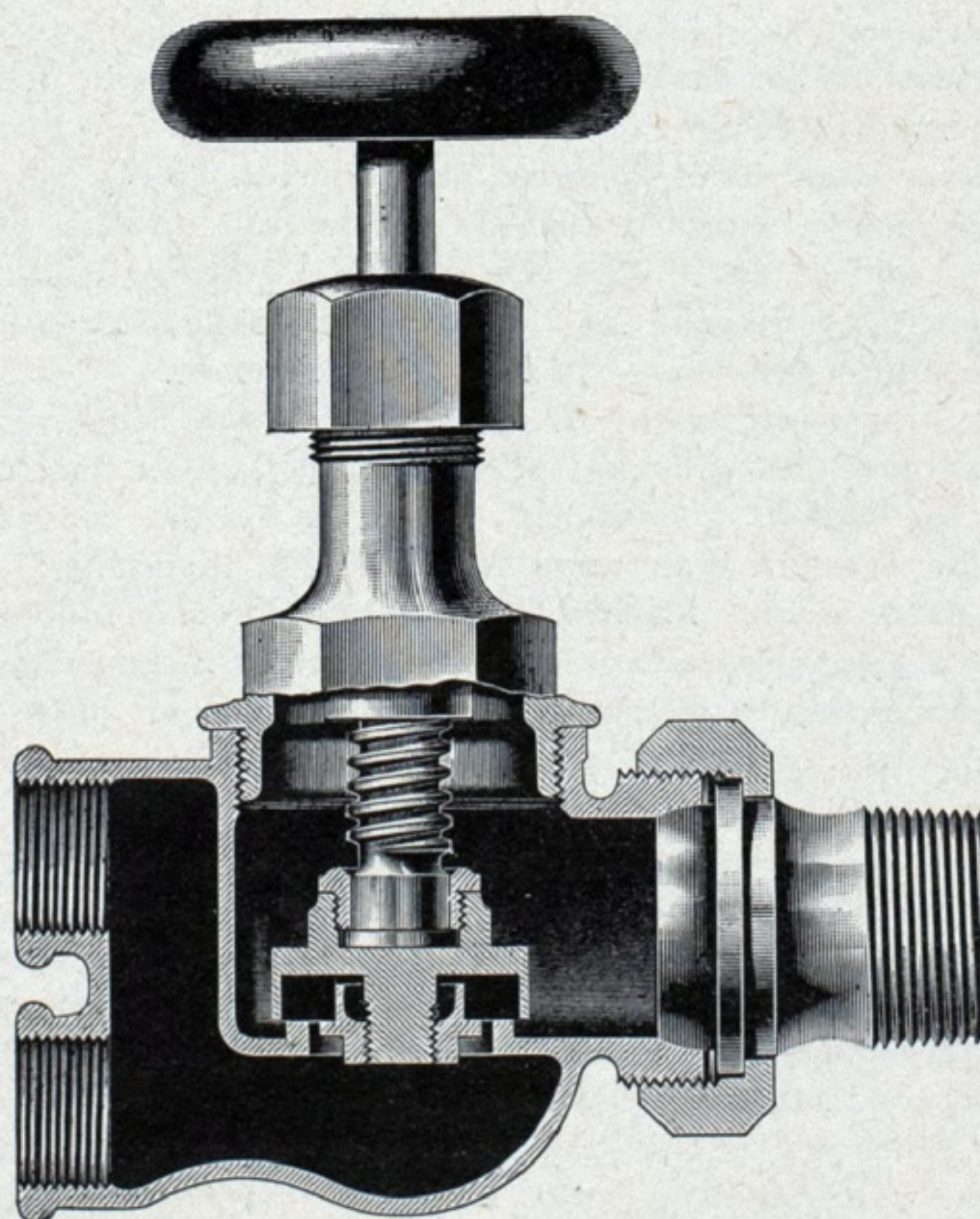
We have received from Messrs. Jenkins Bros., 71 John street, New York, cuts of the Collis circulating valve used for radiators, heating coils, etc. As so many heating devices are now used in freight as well as passenger steamers, it will be of value to our readers to learn from the manufacturers that the Collis is not a new or untried valve but has long been experimented with by the ablest men in the heating business. The valve when attached to a radiator enables a perfect circulation of dry steam at all times up to the seat of the valve. Only one valve is required for a



radiator and the circulation will be active and positive, whether the valve is open, partly open, or closed. Heating surfaces can be warmed much more quickly and effectively when steam is turned on at the radiator, and the usual hammer which takes place when steam is turned on, is prevented.

Radiator connections can be neatly and economically attached to the valve without making them unsightly.

With this valve there is a complete circulation in the apparatus when radiators are disconnected, and they can be disconnected and reconnected without shutting down the whole system. This will be found very convenient when using radiators for temporary heating on board of passenger steamers, buildings, etc.



The Collis valve can be adopted for use with any of the automatic heat regulating systems by removing the regular bonnet and substituting the diaphragm bonnet and trimmings of the regulating system that may be used.

The valves are also made of the best steam metal, are extra heavy, contain all the improvements and are manufactured, tested and inspected in the same careful manner as the Jenkins regular radiator valve.

NOTES.

ON July 19th, 1900, an International Congress of Naval Architecture will meet in Paris and will continue for three days.

LARGE cargoes of iron ore and manganese ore have recently been discharged at Philadelphia, and other cargoes are due in a few days. These cargoes come from Spain, Elba, the Black Sea, British India, and Brazil. Our total imports of iron ore during the first nine months of 1899 amounted to 425,475 tons, and our total imports of manganese ore in the same period amounted to 118,811 tons. Iron ore is dutiable at 40c a ton, but manganese ore is free of duty.

THE American Institute of Marine Underwriters of Boston in consideration of the many disasters to shipping for the last year, is contemplating an advance in rates. The institute is composed of representatives of leading marine insurance companies and any recommendation which that body may make will undoubtedly meet with compliance by every marine insurance company on the coast. The result may also affect the lake marine but not in the same proportions as it will in coast and ocean policies.

THE Hanna-Payne Subsidy Bill will in all probability be introduced soon after the reassembling of the Fifty-sixth Congress on Monday, Dec. 4th, and will be pushed to a vote as rapidly as possible, and its advocates are confident of its early passage. The bill has been indorsed by the Chamber of Commerce committee, Boards of Trade, Boards of Transportation and similar bodies throughout the country, which goes to show that it is an important measure and for the welfare of the whole American people.—American Ship-builder New York.

IN his annual report to the Secretary of the Navy, Chief Constructor Hichborn, in commenting upon the progress already made in the use of electricity for driving auxiliary machinery on naval vessels, recommended its extended use. He also referred to the great amount of trouble, coupled with waste of space, occasioned by the docking of torpedo boats and destroyers in large drydocks, and as a substitute recommended the use of marine railways for the purpose, as the hulls of such vessels have to be inspected quite frequently, because owing to the thinness of the plates used they are more liable to be vitally affected by corrosion.

THE War Department which is quietly at work on the wireless telegraphy for the signal corps has been handicapped recently both by lack of funds and officers to experiment on an extensive scale, but Captain Reiber, at Governor's Island, New York, is carrying on a series of experiments between that point and Tompkinsville with a view of adapting the army apparatus for communication between fortified point and in any other locations where the wireless system might prove superior in practice to the older form of telegraphy. The army is not dependent upon Marconi for instruments, it has developed a system of its own, and the work will be pushed on with vigor when Congress furnishes the necessary means.

DR. LUDWIG MACK has successfully alloyed aluminum with magnesium, and thereby obtained a compound which can be worked like brass, and which is lighter still than aluminum. These two metals are fitted for union says Engineering. Their densities are: Magnesium, 1.75; aluminum, 2.75; they both melt at 800 degrees Centigrade and their dilatations amount to 0.023 and 0.027 millimetres per metre and per degree Centigrade. The metallurgical properties depend upon the composition of the alloy. A 10 per cent. magnesium alloy resembles zinc, a 15 per cent alloy is like brass, and a 25 per cent like a compound bronze. The alloys can be soldered, it is stated, though that point does not appear to be fully settled, keep well in dry and damp air, and give good castings. The well known scientific instrument maker Fuess speaks favorably of some magnalium samples, with from 10 to 12 per cent of magnesium, submitted to him. The alloy is almost as white as silver, and sufficiently hard to cut aluminum with a sharp edged piece of magnalium. It can be turned, bored, etc., quite as well as brass, and clean and neat of a quarter of a millimetre pitch can be cut with ease. It does not file so steadily as brass, but is superior in this respect to copper, zinc, and aluminum. Magnalium is suitable for less mountings, and would make good divided circles and areas for instruments in which light weight is a consideration. If bought by volume it is a little less expensive than brass; but the statements concerning the strenght of this new alloy made by the Magnalium Co., of Berlin, are said not to be of any practical value.



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CLEVELAND, O., NOVEMBER 30, 1899.

CAPT. B. B. INMAN, Duluth, has patented an ice crusher and proposes to keep open navigation during the winter on any or all the lakes. The project has been widely endorsed by shipbuilders, owners and shippers, also by men of engineering ability.

MARINE men are taking up agitation over the Portage Lake bridge with much earnestness on account of the plans of the two railroads using it to replace their wooden structures with steel this winter. Both the Duluth, South Shore & Atlantic and the Copper Range railroads are drawing plans for this work making them conform with the highway bridge in the central spans. Unless some action is taken by marine interests the work will be done on the basis of the present narrow draws, which have proved such dangerous obstruction to navigation.

THE United States government has purchased the right from an English firm to manufacture for the navy as many guns as it desires of a design recently accepted and now in use as a standard pattern for the entire British navy. Henceforth all but the greatest guns of the greater American navy will be manufactured after the new type. The new battleships and all vessels of war carrying anything from an eight-inch gun down to a three-inch gun will be fitted out with the English pattern. The guns which range between these two sizes are the ones which are accredited with having destroyed the Spanish fleets in the two great naval battles of Santiago and Manila. The change from the present armament will increase vastly the efficiency of the new battleships, Kearsarge, Kentucky, Alabama, Illinois, Wisconsin and Maine. Some American naval experts state that it will double their usefulness as engines of destruction in actual warfare.

UPON the invitation of the National Grange, of Springfield, O., Mr. Alexander R. Smith, of New York, and a member of the New York Commerce Commission, addressed the National Grange, last week, on the subject of an American merchant marine and the former's interest therein. A public session of the Grange was held for the purpose of hearing Mr. Smith and members of the Springfield Commercial Club desiring to be present. The closing remark of Mr. Smith were couched as follows: "I appeal to you, therefore, as the most representative, the most conservative and the most powerful National organization of American farmers, for your own class interest and for the welfare of the whole Nation, to urge upon the National Government in appropriate resolutions the immediate passage of effective legislation to enable American-built ships to compete with the subsidized and bountied shipping of foreign nations in the carriage of American imports and exports." The Springfield Daily Press devoted over five columns to the masterly, explanatory and inclusive address made by Mr. A. R. Smith on this occasion.

ACCORDING to a statement prepared by the bureau of statistics American products are gaining more rapidly in China than those of any other nation. The annual report of the inspector general of customs of China covering the year 1898, just received, shows an increase of nearly 40 per cent. in imports into China from the United States, while the increase in total imports is less than five per cent. Imports into China from the United States in 1898 were 17,163,312 Haikwan taels, against 12,440,302 taels in 1897, while those from Great Britain fell from 40,015,587 taels in 1897 to 34,962,474 taels in 1898. From the continent of Europe in 1898 imports also showed a slight reduction, being 10,852,738 taels against 11,800,974 taels. The imports from Great Britain and the continent of Europe make a grand total of European products imported into China in 1898 of 146,376,946 Haikwan taels in value, against 145,457,326 taels for 1897, thus showing a gain in European products imported in China in 1898 of less than one per cent. while those from the United States, as already indicated, shows a gain of nearly 40 per cent. The principal imports into China from the United States are cotton goods, kerosene oil, flour, provisions, railway material and engines, manufactures of iron and steel, manufactures of wood, and manufactured tobacco.

WU TING-FANG, the Chinese Ambassador at Washington, addressed the Commercial Congress at Philadelphia on October 19. He commented on the firmer commercial relations existing between the Pacific coast and his own country, and said that the United States is now in favorable position to increase her trade with China. The American commercial man, the Ambassador added, will always be welcomed by the Chinese. On the other hand, the Chinese are just waking up to the fact that it is to their advantage to foster commercial unity with the United States. The Ambassador, referring to the exclusion of Chinese from the Philippines by General Otis, condemned that act, not as contrary to international treaties, but as being suicidal on the part of the United States. His remarks were hailed with great applause. After this meeting the Ambassador was entertained at an impromptu reception.

DRAINAGE CANAL OUTLET.

The Chicago people are turning their attention to the possibility of an outlet to the ocean via the Chicago drainage canal. If they permit this project to lead them astray from the greater and logical scheme of the deep waterway to the Atlantic, Chicago will be the loser, for the course of commerce is and always has been with the sun. Concerning the proposition for using the Chicago drainage canal as a waterway, the Chicago Times-Herald says:

"The big drainage canal constructed by the people of Chicago, at an outlay of \$35,000,000 to dispose of the sewage of this city may become in time the key to the complete commercial supremacy of the world by the great Mississippi Valley. What was once considered an 'engineer's dream,' when the drainage canal was first projected, is now inviting serious attention of Congress, and its practicability has been so generally conceded that the commercial interests of the West and Middle West are gradually getting together in support of a demand for the linking of Lake Michigan and the Gulf of Mexico by the federal government.

"Strong impetus to the movement to make the drainage canal part of a great navigable waterway, under the control of the federal government, was given by the convention of the Western Waterways Association at Memphis, Tenn., on Wednesday. A resolution was unanimously adopted by the six hundred delegates, representing sixteen states, recommending that Congress seriously consider the project for providing navigable waterway between Lake Michigan at Chicago and the Mississippi river.

"With a waterway large enough and deep enough to carry the heaviest lake boats from Chicago through the drainage canal to Lockport, thence through the Illinois into the Mississippi at Alton, there is little doubt that the sections in the Mississippi water shed would rule the world in the trade of food products and manufactures.

"Chicago's contribution to this great project is the greatest piece of engineering in the history of this country, costing the people of Chicago \$35,000,000, and extending from Chicago to Lockport. This canal has greater cross-section dimensions than any of the world's great ship ways. Where it cuts through the rock it is one hundred and sixty feet wide, and in the earth sections it slopes from one hundred and ten to two hundred feet at the bottom, to from two hundred to three hundred feet at the top—a channel sufficient to float the commerce of the vast empire of the west."—The Evening Telegram, West Superior, Wis.

CAPT. MCDUGALL'S VIEWS.

Capt. McDougall said in a recent interview: "I am of the opinion that the Canadian people do not fully realize what a great commercial highway the St. Lawrence canals are going to be, and that very shortly. It is as natural for the western products to go through that way as it is for the waters of the Great Lakes to flow out through the St. Lawrence river, and I think the canals will be taxed to their utmost capacity in the very near future.

"The Welland and St. Lawrence canals, having the same sized locks, will take on a ship 262 ft. long and 44 ft. beam on fourteen ft. of water, which for lake, river and canal navigation can be operated very successfully, but of course would be too small for trans-Atlantic service. Even if the canals were much deeper and longer I think through shipment would not be a success. Western products can be transferred at tide water, at much less cost than the advantage gained by doing trade in fresh water with vessels built for that purpose only. There was a vast amount of wheat from the Canadian Northwest and Ontario, wheat and corn from the western states, corn from the middle western states, seeking a cool route during the germinating season; iron ore from both the Canadian and American side of Lake Superior, and manufactured iron from the lake region for export; forest products from the lake region and western states, also, cattle and farm products seeking a European market.

"The increase in Canadian products should be great from this on. Rich iron is now found close to Lake Superior in Canada, which will pay well to ship to Ohio and pay the United States import duty. The growth of the Canadian wheat fields in the Northwest and the situation generally calls for a big fleet of Canadian vessels to be built at once. There is a great shortage of United States ships on the lakes, and the few Canadian vessels have done well this season. Lake freights have advanced 100 per cent. or more since the opening of navigation, and the prospects are that they will continue high for one or more years at least, on some classes of freight. I look for a very high rate of freight to tide water until there is time enough to construct sufficient tonnage to meet the demand.

"Canadian capital may build a fleet for this trade, but I think if part of it were under the United States flag it might be a wise thing, as when export business was dull it could haul ore between United States ports and in winter enter the coast trade on the Atlantic. There is now a very favorable law in Minnesota for shipowners. A lake line having a good steamship connection would get preference at western ports. Such a regularly established lake line, either Canadian or United States, could charter by trip wild vessels to its requirements when short of tonnage."

FREIGHT MONEY.

As the outcome of a dispute over the amount of lumber on board the schooner Apprentice Boy, the lumber was libeled at Chicago on Monday by the United States marshal to satisfy the claim for extra freight. The Ott Lumber Co., owners of the lumber, at once gave bond. The Apprentice Boy which is owned by Capt. Peter Peterson and Jonn Peil, loaded the cargo at Traverse City, Mich., and received from the tally man there a paper showing that there were on board the boat 189,193 feet of beech and 18,219 feet of hemlock. When the schooner reached the company's docks in the Chicago river the captain of the vessel drew \$400 on his freight, and was then confronted with a tally sheet from the same tally man at Traverse City showing a much smaller cargo than the captain demanded freight for.

The lumber was retailed at the expense of the boat and the libellant claims that the figures given to the vessel's master were verified. The Ott Lumber Co., however, refused to admit their correctness and the suit followed. Peterson and Peil demand a total freight of \$565.82, the cost of retallying, which is \$62.22, and four day's demurrage at \$24.75, a total sum of \$727.04, less the \$400 cash received. The suit is attracting considerable attention among the lumber captains. For many years past claims have frequently been made that vessels were not credited with all the lumber they had on board. Times were too hard to make any vigorous kick, and the complaint has been confined to grumbling whenever two or three were gathered together.

"SOME one in your line will advertise to your customers. In self defense you must advertise to keep, if not increase your trade," is a suggestion made by Advertising Experience. It is a point well taken and should be borne in mind.

LAKE FREIGHTS.

Indications are that the vesselmen who are holding for 5 cents on wheat from ports at the head of Lake Superior are going to get that figure. Shippers at Duluth and Ft. William were in the market for tonnage Saturday and 4½ cents was offered for prompt unloading at Buffalo, but they did not get any vessels. Owners received dispatches from Duluth brokers asking them for all their available tonnage for this week. They said that the market was strong and that higher rates would be paid. The number of vessels that can be placed this week is comparatively small, as most of the tonnage managed by the ore shippers has been cared for, and many of the outside boats have been chartered ahead, so that the offerings of tonnage will be light. Ore shippers at ports at the head of Lake Superior are practically through, A large amount of ore will be sent forward this week, but tonnage to move it has been secured, and very little more chartering will be done. One vessel that is holding for 5 cents on wheat is at Duluth unloading coal, and she will not be chartered until she is ready to go to the elevator unless that figure is paid.

Marquette shippers have not taken any tonnage for several days past, and no charters were reported at a better figure than last week's quotations. Escanaba tonnage is in fair demand, and while some business was done at 90 cents it was claimed that a better rate was paid on the quiet.

TAPPING THE OTHER END OF THE LAKES.

There is a project on foot to build a ship canal from the head of Lake Superior at Duluth to the head waters of the Mississippi river and to improve the navigation of the upper river so as to have a continuous navigable channel by that route from the lakes to the Gulf of Mexico. It would be an immense work, but the country is rich; the wave of McKinley prosperity is at its height and Congress is expected to appropriate the money.

If this work should be constructed what would the fearful guardians of the lake levels say on the subject? If they are afraid of tapping the lakes at Chicago for the supply of the sanitary channel, what will be their emotions in view of tapping also the lakes at the very head of the water supply? They will be appalled at the plan to drain the Great Lakes at both ends in order to send vast currents down the Mississippi valley.

The proposed north channel connecting the lake with the north branch of Chicago river is another scheme to lower the lakes. Still another scheme of the same kind is the plan to cut a ship canal from the lake to the river across the third ward along the line of Twenty-second street. Do the promoters of these enterprises design to drain Lake Michigan dry? Must all its waters be poured into the Mississippi for the benefit of navigation at St. Louis? Something of that kind seems to be the object of all these plans for diverting the contents of the Great Lake basin into the Mississippi valley.—Chicago Chronicle.

HYDROGRAPHIC NOTES.

Lake Superior—Duluth Harbor Entrance—Bearing of Range Lights—Caution.—Information has been received from Mr. J. H. Darling, United States Assistant Engineer, that the axis of the Duluth entrance canal runs S. 65° 07' W. true (S.W. by W. mag.).

United States Engineers' chart No. 78 shows the rear range light bearing about S. 66° 20' W. true (S.W. by W. ½ W. mag.) from the front light, or the range line nearly parallel to the axis of the entrance canal.

The U. S. Light-House Board List of Lights on the Northern Lakes and Rivers gives the bearing of the rear light from the front light as S. 48° W. true (S.W. ½ S. mag.). Mariners are cautioned accordingly.

Lake Superior—Portage River—Obstruction above Messner's Dock.—Information, dated November 7, 1899, has been received from Mr. A. M. Carter, keeper of the Portage Range light station, that the scow load of stone lost in Portage river above Messner's dock, October 27, 1899, lies to the eastward of ranges 1 and 2. Vessels should pass to the westward of the ranges, where they will find 23 to 24 feet of water. The least water found over the dumped rocks is 18½ feet. The obstruction only extends about 70 feet in direction of channel and is only about 10 to 15 feet wide. The channel proper is 200 feet wide.

By order of the Bureau of Equipment :

J. E. CRAIG,
Captain, U. S. N., Hydrographer.

ANOTHER BLOCKADE AT THE "SOO."

The "Soo" passage is again blocked completely, at Little Rapids, two miles below Sault Ste. Marie. The big steamer Siemens with her consort, the barge Holley, are across the channel at that point.

The stranded boats show a most curious mix-up. The North Star is lying against the east bank of Little Rapids cut, held fast there by the stern of the Siemens, which hangs over the side of the Star near the latter's boiler-house, the Siemens's bow resting against the opposite bank. The barge Holley, which the Siemens had in tow, is above her bow at the stern of the Siemens, with her stern against the west bank. Thus the channel which is but 300 feet wide at this point, is completely blocked. It is believed they will get the Holley and the Siemens out of the tangle without serious difficulty, but the cargo of the North Star will probably have to be lightened. That steamer is considerably damaged. But, beyond a dent in the side of the Siemens above the water line, and some slight damage to her after bulwarks, she and the Holley appear to be all right.

There are two explanations as to the cause of the disaster. One is that the North Star tried to pass the Siemens abreast of the light-house at the entrance to the cut. In doing so the Star swung across the Siemens' bow. The latter immediately backed her engines at full speed. The North Star swung the Siemens around, causing the stern to strike the Northern Liner, upon which she grounded on the bank. This statement is borne out by two eyewitnesses ashore, and Capt. Gunderson, in command of the Siemens.

The other explanation is that the rudder-chains of the Siemens parted when near the North Star. The captain of the North Star will make no statement.

It is doubtful if the channel can be cleared before Wednesday night.

The Siemens and Holley belong to the Rockefeller fleet, whose big steamer, the Douglas Houghton, blocked the channel earlier this summer.

THE HOLLAND BOAT A SUCCESS.

The Inspection and Survey Board, which recently made tests with the submarine boat Holland, reports the trials were highly successful. Chief Engr. John Lowe was specially ordered to witness all trials and the official tests. His report is of great interest, as it commends the Holland. He says:

"I report my belief that the Holland is a successful and veritable submarine torpedo boat, capable of making a veritable attack upon the enemy unseen and undetectable, and that, therefore, she is an engine of warfare of terrible potency, which the Government must necessarily adopt into its service."

Mr. Lowe says it is his opinion "that this Government should at once purchase the Holland and not let the secrets of the invention get out of the United States," and that the Government ought to create a submarine torpedo boat station for the purpose of practice and drilling of crews, and says "We need right off and right now, fifty submarine torpedo vessels in Long Island Sound to protect New York, preserve the peace and to give potency to our diplomacy." The Holland will be sent around to Washington the early part of December and will give an exhibition in the Potomac river for the benefit of Congress and the Navy Department officials.

SHIPPING BRITISH SEAMEN.

With regard to vessels which have touched at United States ports, it is stated that the Board of Trade are taking steps by which masters will be compelled to comply with the provisions of section 124 of the merchant shipping act, 1884, respecting the engagement of seamen at such ports. This section is as follows :

(1) Where the master of a ship engages a seamen in any British possession other than that in which the ship is registered, or at a port in which there is a British consular officer, the provisions of this Act respecting agreements with crew made in the United Kingdom shall apply, subject to the following modifications : (a) In any such British possession the master shall engage the seamen before some officer, being either a superintendent, or if there is no such superintendent, an officer of customs. (b) At any such port having a British consular officer, the master shall, before carrying the seamen to sea, procure a sanction of the consular officer, and shall engage the seamen before that officer. (c) The officer shall endorse upon the agreement an attestation to the effect that the agreement has been signed in his presence, and otherwise made as required by this Act, and also, if the officer is a British consular officer, that it has his sanction, and if the attestation is not made, the burden of proving that the engagement was made, as required, shall lie upon the master.

If a master fails to comply with this section he shall be liable for each offense to a fine not exceeding £5.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Investigation of cause of collision between steamer Peerless and barge A. Stewart, in which the Peerless was sunk and damaged to the extent of about \$8,000.

It is found from the evidence in the case that the collision occurred between two and three o'clock p. m., Sept. 7th. The Peerless was going up St. Louis Bay in tow of the tug Industry, and the Stewart was coming down in tow of tug Buffalo. Each tug was approaching the northerly draw of the Northern Pacific railroad bridge. The tug Mystic at that time was working at a raft, which she was pushing down through the rafting span of the bridge which adjoins the draw on the southerly side. The wind being fresh from the southwest, the raft had drifted in a northerly direction into the channel about in line with the abutment, or bridge-rest. When the Mystic was near the westerly end of bridge-rest and parallel to it, she blew one whistle to the Industry, which was then about half way between the Duluth and Superior bridge and the Northern Pacific bridge. The Industry answered this signal with one whistle, and then signaled the Peerless to come ahead at full speed. The Mystic directed her course to the right, shoving against her raft with her wheel aport, and thus slowed herself partly across the channel in line of the northerly draw. The Buffalo had checked her speed to very slow, after passing the bend westward of the bridge, and was following the northerly side of the channel. She blew two whistles to the Industry when they were about 1,500 feet apart, the Industry being then close up to the draw. This signal was not answered by an alarm or other signal from the Industry. When the Peerless was in the draw of the bridge, the Industry signaled her to stop and back, which she did, continuing to back strong until the collision occurred, which was at a point about 400 or 500 feet above the draw.

The pilots of tugs Buffalo and Mystic having complied with the requirements of the pilot rules, they are, therefore, exonerated from blame. The pilot of the Industry is wholly at fault for signaling the Peerless to run at full speed when navigating in a crowded channel, and for not sounding an alarm signal to the Buffalo; violation of Rule III, and third paragraph of Rule VI. of the pilot rules of the Great Lakes. For failing to comply with the requirements of these rules, the license of A. H. Kent is hereby suspended for a period of six months, commencing December 1st, 1899, and ending May 31st, 1900.

JOHN MONAGHAN,
MICHAEL F. CHALK,
U. S. Local Inspectors.

MARINE PATENTS.

Patents issued Nov. 14, 1899. Reported specially for THE MARINE RECORD complete copies of patents furnished at the rate of ten cents each.

- 637,080. Grating for boats' bottoms. Leon Cailleaud, Rochefort sur Mer, France.
- 637,142 and 637,143. Conveying apparatus. T. S. Miller, South Orange, N. J.
- 637,181. Propeller. Alonzo Sweetland, Talmage, Cal.
- 637,399. Pump water closet for ships. S. R. Miles, Yonkers, N. Y.
- 637,423. Cross-hatch cover. Horace See, New York, N. Y.
- 637,547. Marine velocipede. Charles Clark, Toronto, Canada, assignor of one-half to A. H. Canning, same place.
- 637,611. Marine propeller. J. A. Hopewell, Arnprior, Canada, assignor of one-third to W. B. Craig, same place.
- 637,619. Self-reefing sail for canoes. L. A. Kimball, Providence, R. I.
- 637,702. Apparatus for cleaning hulls. H. W. Branch, Tampa, Fla., assignor of one-half to M. S. Moreno, Key West, Fla.
- 637,726. Crib for docks. A. D. Garretson, Buffalo, N. Y.
- 637,831. Cutter-head for dredges. A. W. Robinson, Milwaukee, Wis.
- 637,872. Life-preserver. F. W. Jurgschat, Hufen, Germany.
- 637,935. Block for building moles, piers, dams, etc. N. R. Jeckel, Skagen, Denmark.
- 637,947. Means for disposing of dredgings. A. G. Rose, New York, N. Y.
- 637,959. Means for propelling boats. H. H. Fefel, New York, N. Y., assignor to the Multiple Power Co., of West Virginia.
- 637,992. Electric log-recorder. L. T. Jones, Jr., San Francisco, Cal.
- 638,081. Bow-facing, self-feathering paddles for boats. J. A. Walker, Rockford, Ill.
- 638,123. Current water-wheel. T. J. Ingels, Atchison, Kan.
- 638,132. Water bicycle. Andreas Marx, Fuerstenberg, Germany.

ONE of the strong features about the steel rail trade is that while the American roads have taken about 75 per cent of next year's product and there yet remain a probable demand both from old lines and new projects, scarcely anything has been done to provide for the inquires from abroad. There is a demand for rails in Japan, Australia, South America, Cuba, Mexico and China. Everywhere throughout the world construction work seems to be active and indications are that great difficulty will be experienced in obtaining the necessary material. Moreover, every mile of new track constructed means the building of five or six new cars and a train of other improvements, involving the consumption of much iron and steel.—From Iron and Steel Chicago.

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Know Your Own Ship

is a book valuable to the Vessel Owner, Master, Naval Architect, and, in fact, all interested in vessel handling and construction. A simple explanation of the stability, construction, tonnage and freeboard of ships. Specially arranged for the use of ships' officers, superintendents, draughtsmen and others. By Thomas Walton, naval architect; lecturer to ships' officers, government navigation school. Fourth edition greatly enlarged. Illustrated; cloth, \$2.50, by express prepaid.

THE MARINE RECORD,
Third Floor, Western Reserve Building,
Cleveland.

TREASURY DECISIONS.

Information for candidates for appointment as hospital stewards in the United States Marine Hospital Service.

[Circular No. 136.]

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL, M. H. S.,
WASHINGTON, D. C., Nov. 15, 1899.

The following extract from the revised regulations of the Marine Hospital Service is hereby published for the information of applicants for appointment as hospital stewards of that service:

57. Hospital stewards will be appointed by the Secretary of the Treasury upon the recommendation of the Supervising Surgeon-General after passing a successful examination under the rules prescribed by the United States Civil Service Commission.

58. Applicants for this position must be graduates of pharmacy, furnish certificates of good moral character, and pass a satisfactory physical examination. No applicant will be examined or appointed who is under 21 or over 30 years of age.

59. Hospital stewards shall be divided into two grades, senior and junior, and original appointments shall be to the grade of junior hospital steward.

60. Promotions according to seniority or merit will be made after three years' service, from the junior to the senior grade, after due examination on subjects connected with their official duties. Said examination shall be in writing and the questions shall be prepared under the direction of the Supervising Surgeon-General. Previous to said examination the Supervising Surgeon-General shall cause to be sent to each officers under whom the said steward has served a list of interrogatories which shall be answered by said officers and returned to the Bureau. If their record of sufficiency, honesty, and sobriety is not good, they will not be promoted.

73. The compensation of hospital stewards shall be at the following annual rates, viz: Senior hospital stewards shall receive \$720 per annum; junior hospital stewards shall receive \$600 per annum. At the expiration of five years' service they shall receive \$792 per annum, and at the expiration of ten years' service \$864 per annum.

74. Hospital stewards, when on duty at United States marine hospitals or quarantine stations, shall be entitled to quarters, subsistence, fuel, lights, and necessary laundry work, and when on duty at stations where there are no quarters belonging to the service, they shall be entitled to commutation therefor at the rate of \$25 a month.

76. Hospital stewards will be allowed medicines and surgical appliances in stock at the stations for themselves and families when sick.

134. The general duties of a hospital steward shall be to oversee the duties of the attendants, to report dereliction of duty among the attendants to the commanding officer, to issue supplies to the attendants, to supervise the cleaning of the various buildings of the station, and to assist in preserving order in and about the buildings and grounds.

135. The senior or junior hospital steward will make daily inspection of the wards, kitchen, and quarters of attendants, giving particular attention to cleanliness and proper preparation of food.

138. It shall be the duty of the hospital steward to inspect the meals of attendants and patients daily and see that they are properly cooked and served, and that order is maintained.

140. It shall be the duty of hospital stewards to procure the subsistence and other supplies as directed by the commanding officers, to keep a record, by weight and measure, of all the stores received, and also of the stores issued each day to the cook or patients or to stewards, and to compound and dispense such medicines as may be prescribed.

Hospital stewards are not appointed to any particular station, but to the general service, and are subject to change of station. When traveling under orders they are allowed actual expenses.

WALTER WYMAN.

Supervising Surgeon-General U. S. M. H. S.

Approved: L. J. GAGE, Secretary.

MEETING OF MECHANICAL ENGINEERS.

The annual meeting of the American Society of Mechanical Engineers will be held at New York December 5 to 8. The program arranged includes the following papers:

President, Admiral Geo. W. Melville, "Annual Address."
R. H. Thurston, "The Steam Engine at the End of the XIX Century."

C. V. Kerr, "Berthier Method of Coal Calorimetry."
J. A. Laird, "Test of Two Pumping Engines at St. Louis Water Works."

H. T. Eddy, "New Graphic Method of Constructing the Entropy-Temperature Diagram of a Gas or Oil Engine."
George M. Peek, "Pressure in Pipe due to Stoppage of Flowing Liquid."

A. L. Rice, "Liquefaction of Gases."
P. M. Chamberlain, "Curved Glass Blue Print Machine."

P. M. Chamberlain, "A Metal Dynagraph."
M. P. Higgins, "Education of Machinists, Foremen and Mechanical Engineers."

Herman Poole, "Experiment on Using Gasoline Gas for Boiler Heating."

C. H. Benjamin, "Friction of Steam Packings."
F. C. Wagner, "Friction Tests of a Locomotive Slide Valve."

A. J. Frith, "Note on Fly-wheel Design."
James McBride, "A Broken Fly-wheel, and How it was Repaired."

C. H. Robertson, "Efficiency Test of a 125 horse-power Gas Engine."
J. F. Harris, "Strength of Steel Balls."

M. White and F. W. Taylor, "Colors of Heated Steel at Different Temperatures."
W. J. Keep, "Impact."

H. J. Conant, "The Southern Terminal of Boston."
F. H. Stillman, "High Hydrostatic Pressures, and their Application to Compressing Liquids. A New Form of Pressure Gauge."
G. I. Rockwood, "The Value of a Horse-Power."

CHICAGO-GULF OF MEXICO.

At the waterways convention held in Memphis, Tenn., last week it was "resolved, that we recognize the utility of the deep waterways between the Great Lakes and Gulf of Mexico and recommend to the serious consideration of Congress the entire subject matter, to the intent that such a project shall be matured, and such work undertaken as will provide a waterway of the greatest utility between Lake Michigan at Chicago and the Mississippi river."

The action by the waterways convention at its concluding session represents the achievement by the Illinois delegation in attendance upon the meeting. In bringing this about L. E. Cooley, engineer in charge of the Chicago drainage canal, was the moving spirit. Mr. Cooley's address was devoted to the subject of connecting the Great Lakes with the gulf through completion of that canal.

"I think it will not be long," said Mr. Cooley, before a congress of experts in transportation and trade will be called to Chicago for the purpose of considering a better system of waterways."

The speaker concluded by predicting that from a bread-stuff and manufacturing standpoint the sections in the Mississippi watershed would rule the world if the proper transportation facilities and expenses would be arranged.

CANADA DOING US A GREAT GOOD.

(From the Lockport Journal).

"It looks as if the Canadians were determined to force New York to deepen the Erie canal and enlarge the locks.—Buffalo News."

"If the commercial supremacy of the Empire State and its two chief cities is to be retained it is evident that there must be an improved water route from the lakes to tidewater and anything that will hasten such deep waterway should be welcomed. Canada may be doing us a great good in calling attention to the imperative need for better shipping facilities through this State as an outlet for the business of the Great West."

TRADE NOTES.

FROM Lipsius & Tischer, Kiel and Leipzig, Germany, comes "The Naval Wordbook," by N. W. Thomas, M. A., in which in parallel columns appear words, phrases and sentences used in naval speech in English and German.

ONE of the most important outcomes to labor of the strike at the Cramp shipbuilding yards in Philadelphia is that the company has decided upon the wholesale adoption of pneumatic tools throughout its yards and shops. Contracts aggregating \$50,000 have already been awarded to the Chicago Pneumatic Tool Co., for riveters, hammers, drills and other tools driven by compressed air. It is stated that orders are being given out at the rate of \$10,000 per week. Fully \$100,000 will be expended in these equipments.

NEW DOTY MFG. CO., of Janesville, Wis., the well-known builders of all kinds of power and hand punching and shearing machinery, have been increasing the capacity of their already large plant considerably to meet the demand for their improved machinery. They have put in a new flume, water wheel, shafting, pulleys, etc., and have built a large addition to their plant to be used for storing patterns. In addition to their regular line of punching and shearing machinery and boiler maker's bending rolls, they are bringing out an additional line of the same machinery of greatly increased capacity for doing larger and heavier work. The demand for their tools is steadily increasing, their business having almost doubled itself in the past year.

THE Southern Trade Record, published in Cincinnati, O., says in its issue of November 6, as follows: "Appreciating the importance of the subject we have, through the mediums of our editorial and reportorial staffs, made a thorough, painstaking and comprehensive investigation of the various concerns in all sections of the country that manufacture this line of machinery, with a view to discovering just where the best was really to be had. After a critical test and examination of the different windlasses and capstans, and conscientiously considering the claims made by each manufacturer as to the merits and superiority of his machinery, we have become convinced that the American Ship Windlass Co., of Providence, R. I., is pre-eminently the largest and most reliable manufacturer of this line of machinery in the United States."

WORK began on the additions to the Carnegie Steel Co.'s plant at Duquesne on Monday of this week, with a large force of workmen, to be increased to 1,000 as soon as sufficient men can be had. The full program for improvements in the company's facilities contemplates an expenditure of \$5,000,000, or \$6,000,000. Electric lights have been strung all about the grounds, and the intention is to keep the work going night and day. The open hearth furnaces, 14 in number, will be built first. When these are well under way the work on the new blooming mill will commence. A handsome new office building is to be constructed on South Duquesne avenue. The foundation of the new electric plant has been completed and the structural work was begun this week. The work on the new soaking pit is also well under way. At Rankin, where the company proposes to erect two new blast furnaces of a daily capacity of 700 tons each and which will cost about \$2,500,000, everything is being made ready for active operations.

ON the eve of its twentieth volume, The Mariner, Effingham House, Arundel-street, Strand, London, has passed into new hands, and, judging from the current number, says The Westminster Gazette, this useful and in some aspects really interesting record of and commentary upon matters of concern to ship captains, ship owners, ship builders, and marine engineers, promises not only an accession of liveliness in the criticism, but an increase in the value of the information offered. The chief contribution in the new number is devoted to the turbo-motor, from which clearly very substantial gains in speed and certain gains in economy may be anticipated. The MARINE RECORD is pleased to endorse The Mariner and Engineering Record, as one of the most valuable, instructive, and entertaining journals that comes to our exchange table, furthermore, all interested in marine affairs would profit by reading each issue.

MARINE INVENTIONS.

The RECORD receives almost every week suggestions, advice and propositions to advocate certain marine inventions.

In the course of the past few years we must have saved, through our private correspondence, a mint of money to would-be patentees.

Some of the notions advanced are excellent, but impracticable, others are simply ridiculous. As an indication of what is being done in this direction, we herewith produce a list of applications on patents filed in London for the month of November:

- Improvements in steam turbines.
- Improvements relating to ships' compasses.
- Improvements in the propulsion of vessels.
- An improved fairlead bollard.
- Improvements in steam turbines.
- Improvements in receptacles for storing, releasing and distributing life-belts.
- Means or apparatus for recording the electrical vibrations or undulations known as Hertzian waves.
- Improvements in means for marine propulsion.
- The unsinkable boat with life-lines and buoys.
- The rescue, or saved by the life buoy.
- Improvements in steam generators for superheating the steam.
- Improvements in or relating to life-belts.
- Improvements in the means of carrying ships' boats to facilitate launching them, and novel or improved means to facilitate access to the boats when suspended outboard.
- Parker's pneumatic system for saving and repairing, etc., damaged ships at sea and salvaging.
- A new or improved life-saving belt.
- Improved method of and apparatus for securing a ship's screw propeller upon its shaft.
- Construction of docks, piers, breakwaters, seawalls, and all submarine work.
- Improved means of managing and launching life-boats and of saving life at sea.
- Improvements in life-belts.
- Improvements in means and apparatus for the automatic operation of the steering gear of torpedo and other vessels.
- Improved means for use in launching ships' boats.
- A method of and means for automatically removing sand, mud, and like deposits, by the action of tide or currents.
- Improvements in air propellers or blowers.
- Improvements in or relating to rowing boats.
- Improvements in the propulsion of vessels and apparatus therefor.
- Improvements in suction dredges.
- Improvements in or connected with reversible rotary engines or turbines.
- Improvements in flanged copper pipes.
- Improvements in shaft bearings.
- A method of marine fog signaling.
- Improvements in shaft protectors for propelling vessels.
- Improvements in or connected with life belts and the like.
- Improvements in apparatus for saving life at sea.
- Improvements in portable freight conveyances.
- Improvements relating to steering gear.
- Improvements in screw propellers for steamers and other vessels.

- Improvements in and applicable to seat backs convertible into sleeping berths for steamships, etc.
- Improvements in covers for the cross hatches of vessels.
- Improvements in the method of supporting and revolving ventilator cowls on board ship.
- Improvements in the construction of ships or vessels propelled by steam or other motive power.
- Improvements in screw propellers.
- Improvements in and relating to submarine boats.
- Improvements in or connected with the steam engines of steam vessels.
- Improvements in ropes.
- Improvements in apparatus for cleaning ships' bottoms.
- Improvements in row-locks for boats.
- Improvements in or relating to ships' berths, couches, and the like, chiefly intended for use on board ship.
- Improved moldings for ships' bulwarks, coamings, and the like.
- Improvements in or relating to packing rings for pistons and the like.
- Improvements in devices for protecting the propellers of steamships and other vessels.
- Improvements in the construction of passenger steamers and steamships.
- Improvements in life-buoys.
- Forced draft system for steam generators.
- Improvements in indicators for ships' logs.
- Improvements in or relating to the construction of built up articles, such as the covers of ships' hatches, tanks, and the like.
- Improvements in aluminum alloys, and in the method of casting them.
- Improvements in or relating to refrigerating apparatus.
- An improved life-belt.
- Improvements in apparatus and appliances for indicating and registering the mean pressure of the steam in steam engine cylinders, etc.
- Improvements in or relating to refrigerators or cool chambers.
- Improvements in combined propelling and steering apparatus for boats or vessels.
- An improved swimming belt, with inflatable lining.
- Improvements in the manufacture of armor plates.
- Improvements in or relating to steam turbines.
- An improved draughtometer for use on ships.
- Screw propellers.
- A new or improved apparatus for saving life at sea.
- Improvements in or pertaining to sailing models of ships, and the like.
- Improvements in packing or bearings for reciprocating or revolving rods, shafts, and the like.
- Improvements in or relating to propellers for vessels.
- Improvements in or in connection with ships' compasses.
- The marine life preserver.
- Improvements in the method of and means for the production of motive power for launches, etc.
- Improvements in wireless telegraphy.
- A marine engine governor.
- Improvements in buoyant body attachments for saving life at sea.
- Improved apparatus for discharging or conveying ashes, and the like out of the stokeholds of vessels.
- Improvements in or relating to watertight doors.
- Improvements in or relating to steam engines.

- Improvements in filtering apparatus for removing grease from exhaust steam.
- Improvements in chains.
- Improvements in devices for rapidly altering the direction of movement of ships.
- An improved process for preserving wood.
- Improvements in life-saving rafts.
- Side fins pivot rudders.
- Smoke prevention and combustion of gases in all kinds of furnaces for heating and raising steam.
- Improvements in sounding apparatus.
- Improvements in cylindrical marine boilers.
- Improvements in and relating to ships' rudders.
- Improvements in and relating to steam-operated audible signaling apparatus.
- Improvements in forced or induced draught apparatus for steam boiler or other furnaces.
- Improvements in the means and method of supplying steam to steam whistles.
- Improvements in steam superheaters.
- Apparatus for measuring the depth of water at sea.
- Improvements in dredging apparatus.
- Improvements in and relating to fold-up ships' berths.
- Improvements in apparatus for steering and stopping ships.
- Improvements in yacht and like keels.
- New or improved form of winding drum for winches and cranes.
- Improvements in marine engine controllers.
- Improvements in or relating to telegraphy without the use of continuous wires.
- Improvements in water-tube boilers.
- Improved speed indicator for ship's engines when moving forwards or backwards.
- Improvements in screw-propeller shafting thrust bearings, and screw-propeller bosses.

We have now before us several ideas of incompetents who wish to patent, but, unless we understand, can learn, or ascertain that there is, or may be, merit in these, or any other propositions for patents brought before us, we are candid enough to so state.

LIEUTENANT Gontran de Faramond de Lafajole, naval attache of the French embassy, Washington, D. C., and M. Louis Revier, naval engineer, representing the French government, have been in New York recently inspecting the Holland boat and it is announced that negotiations have been entered into between the representatives of the French government and the company controlling the submarine torpedo boat for the construction of several vessels of the Holland type, and also for the exclusive use of the patents for the submarine boat for the French government. A list of the requirements of the French government was given to a representative of the Holland company. Speaking of the boat, Lieutenant Faramond said: "I am pleased with the boat. It is my intention to recommend that French experts in submarine navigation be sent here to study the Holland. I will also recommend that out of the appropriation now available for submarine boats some of the Holland type be bought or manufactured. We want a great fleet of submarine boats and we want the best. With vessels of this type our harbors would be made impregnable."

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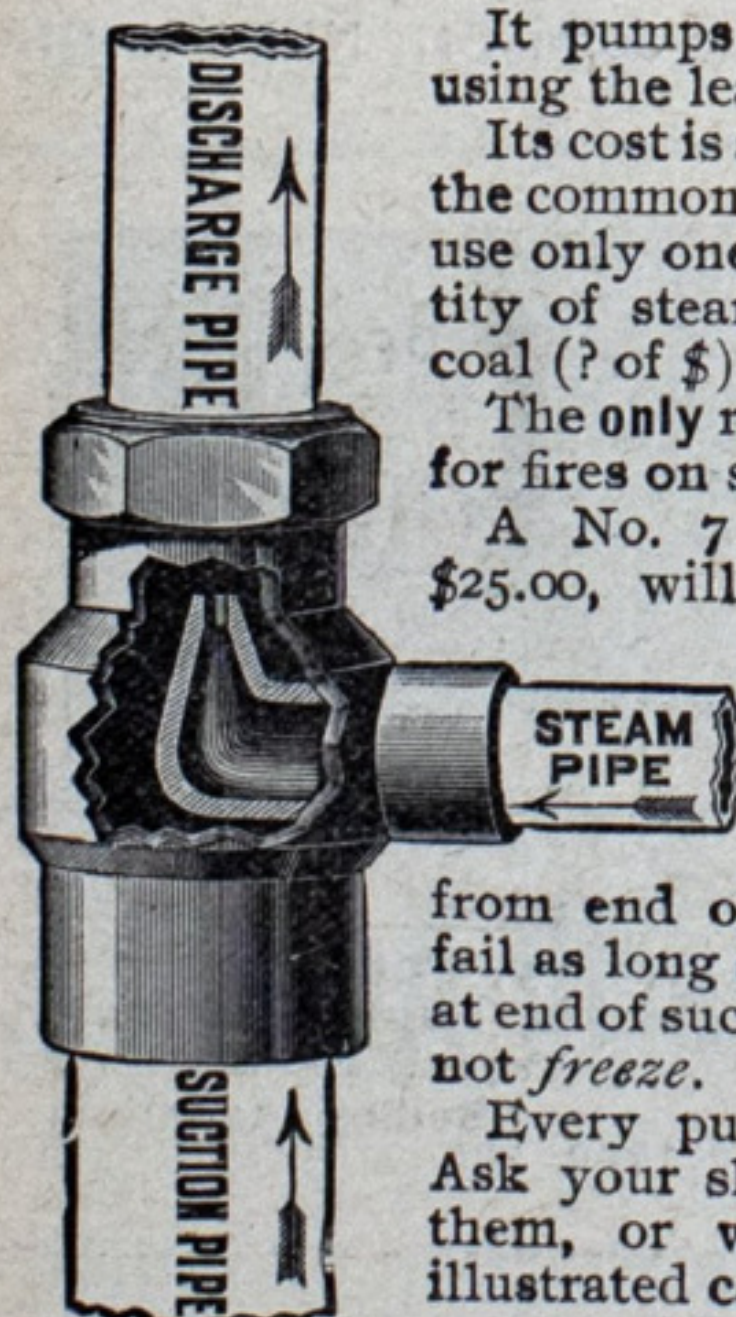
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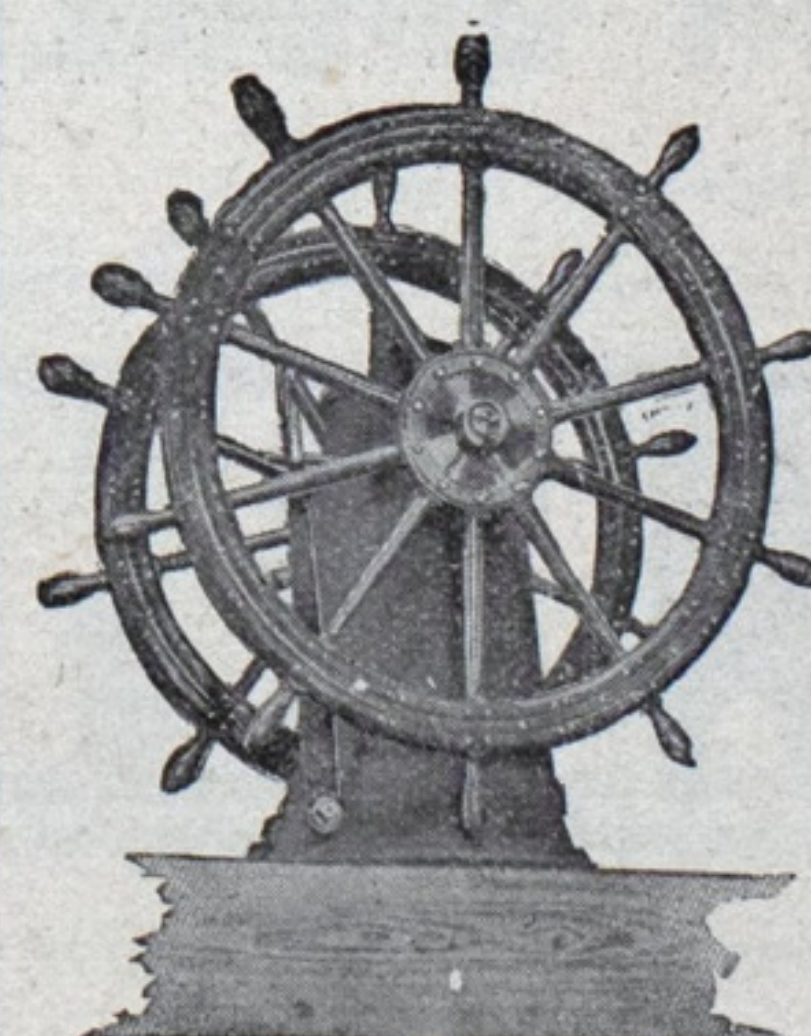
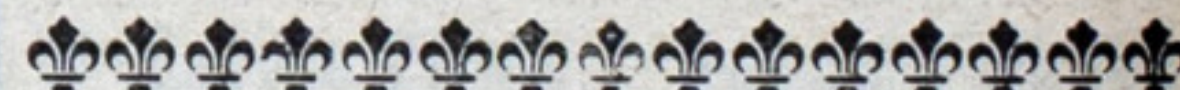
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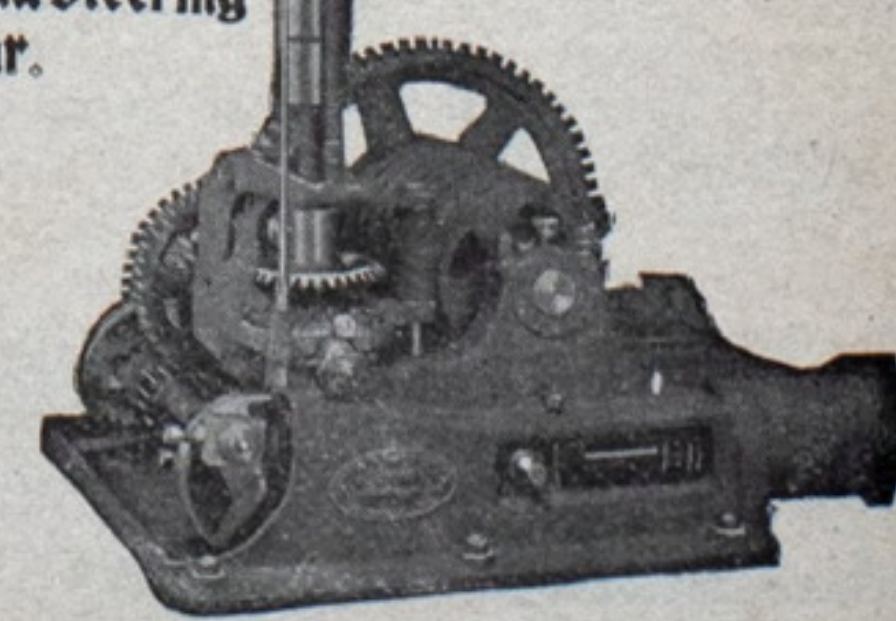
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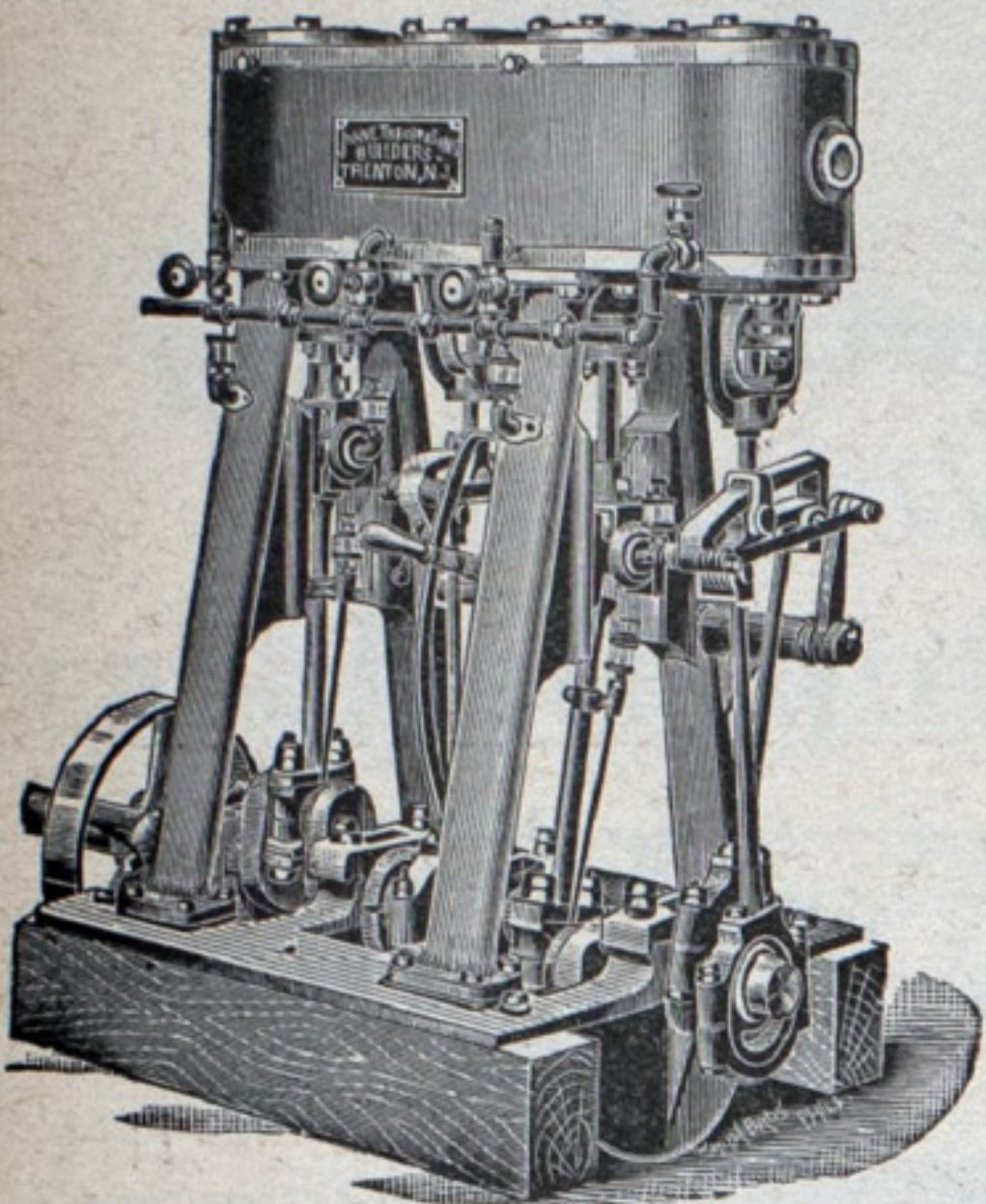
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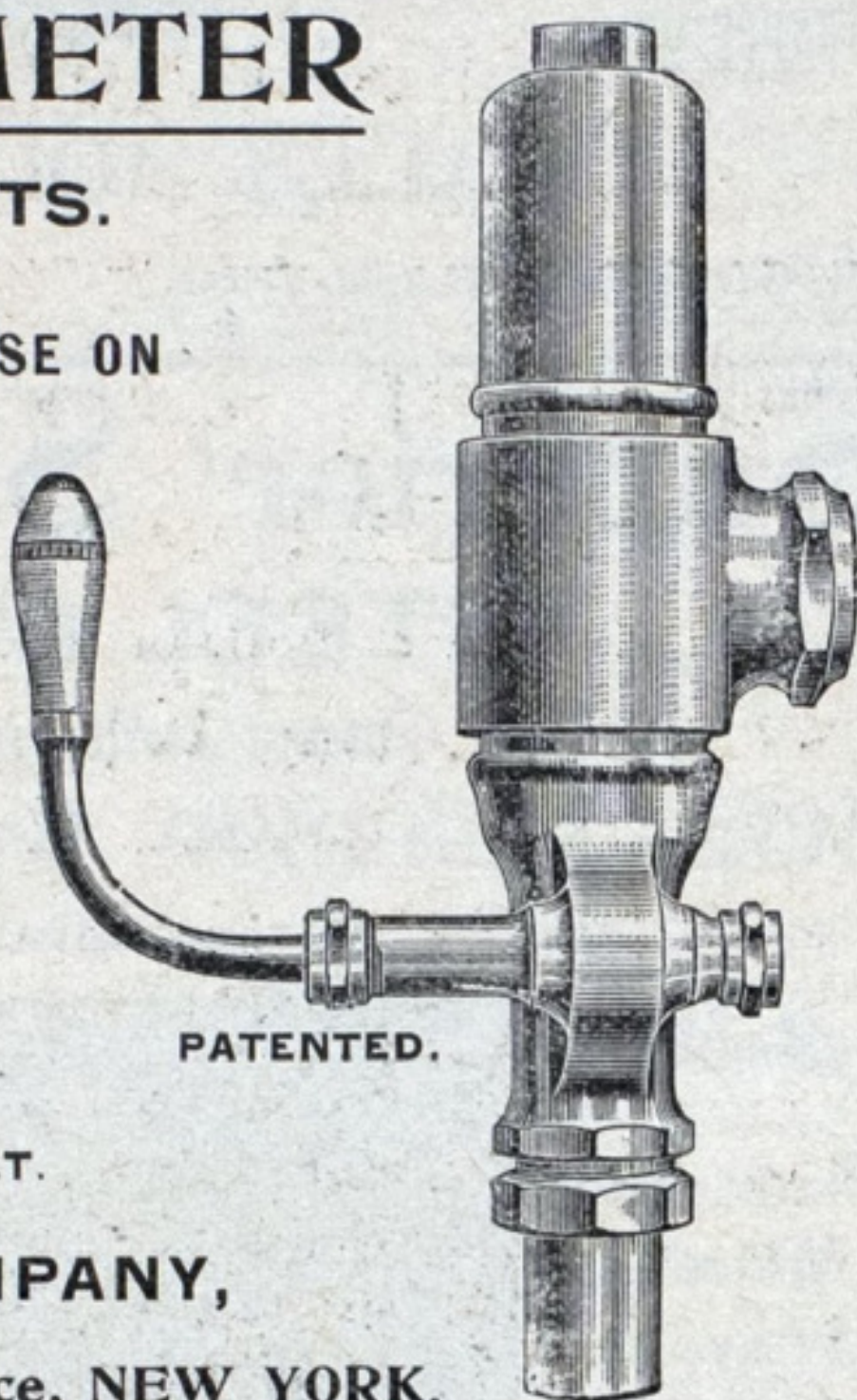
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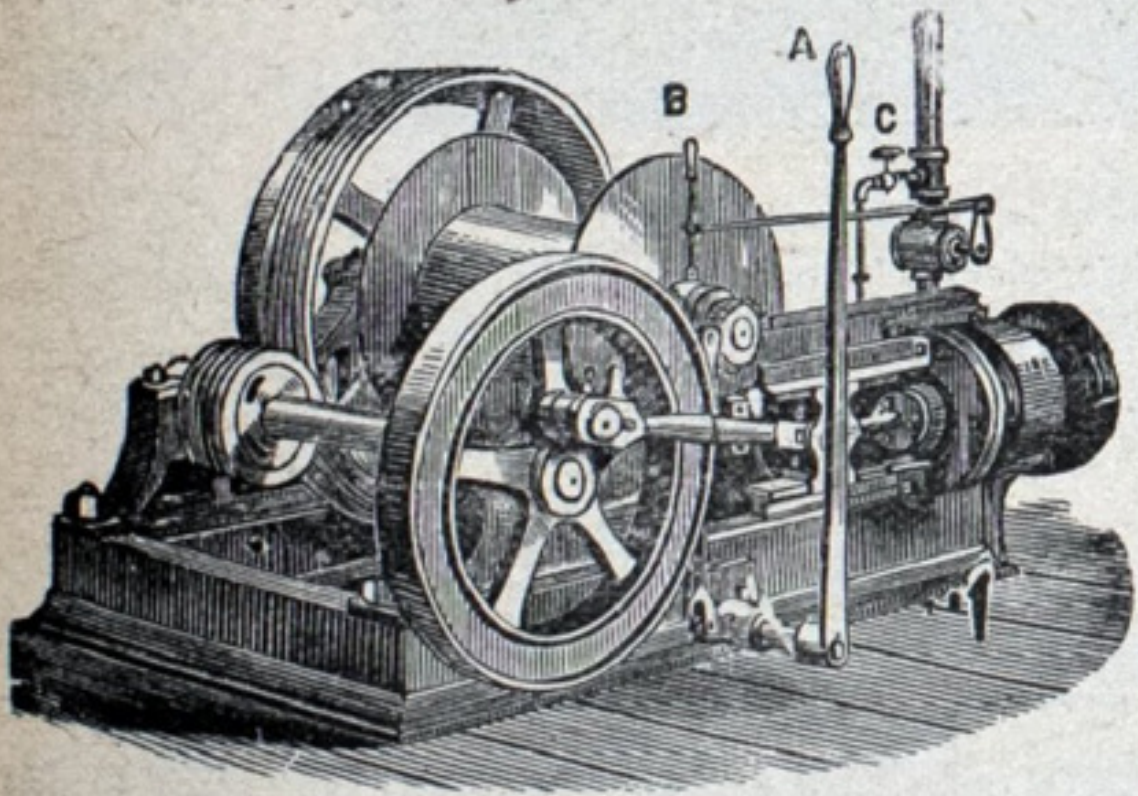
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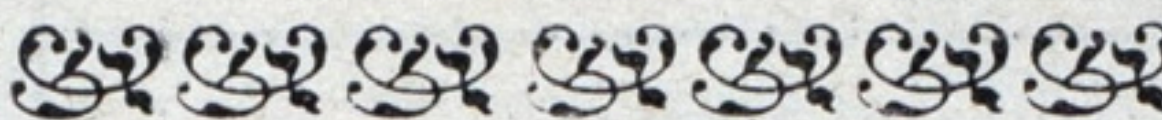
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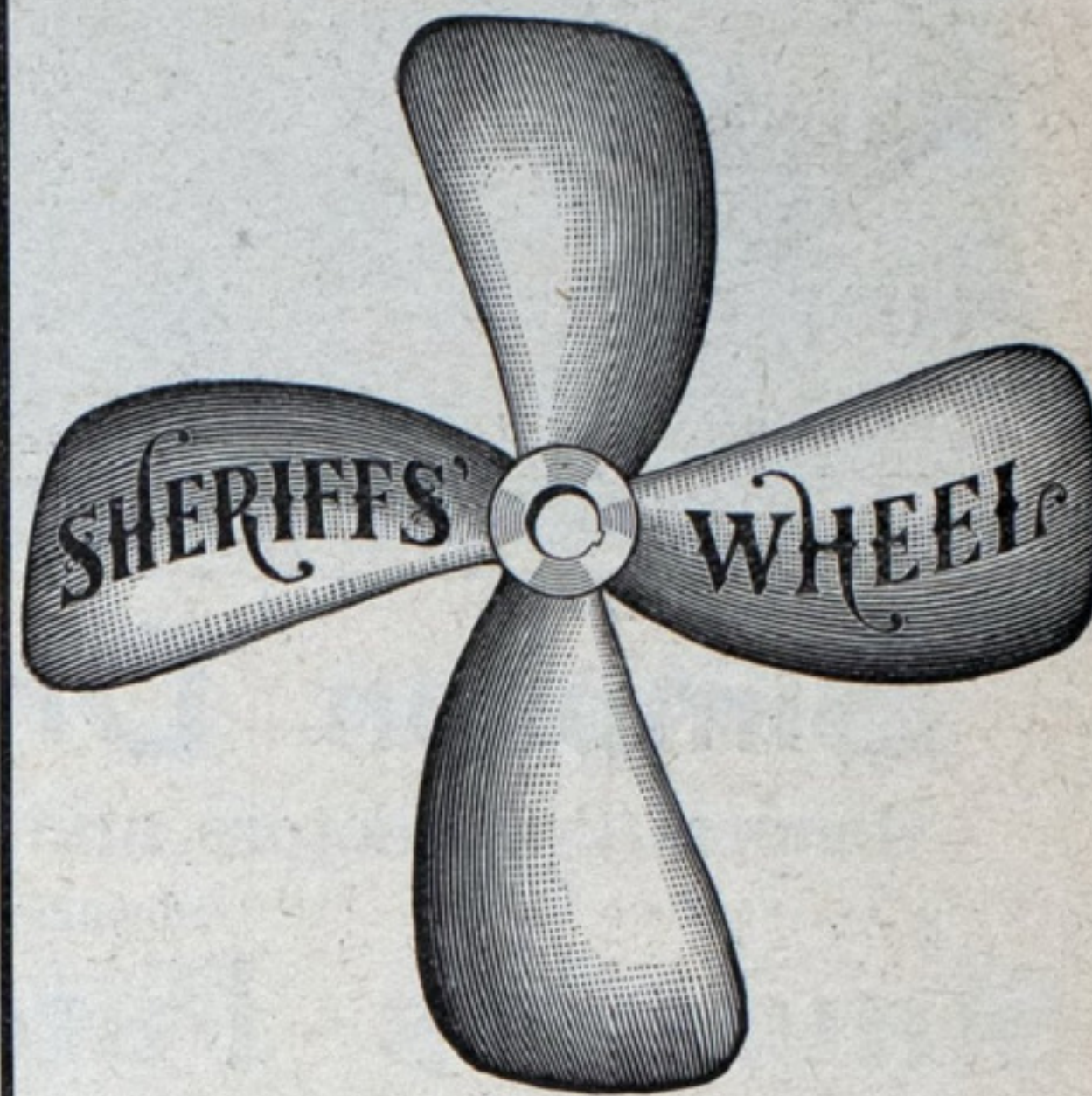
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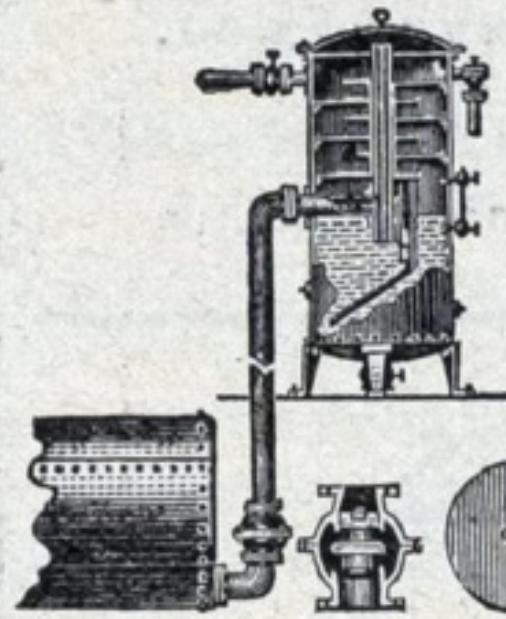
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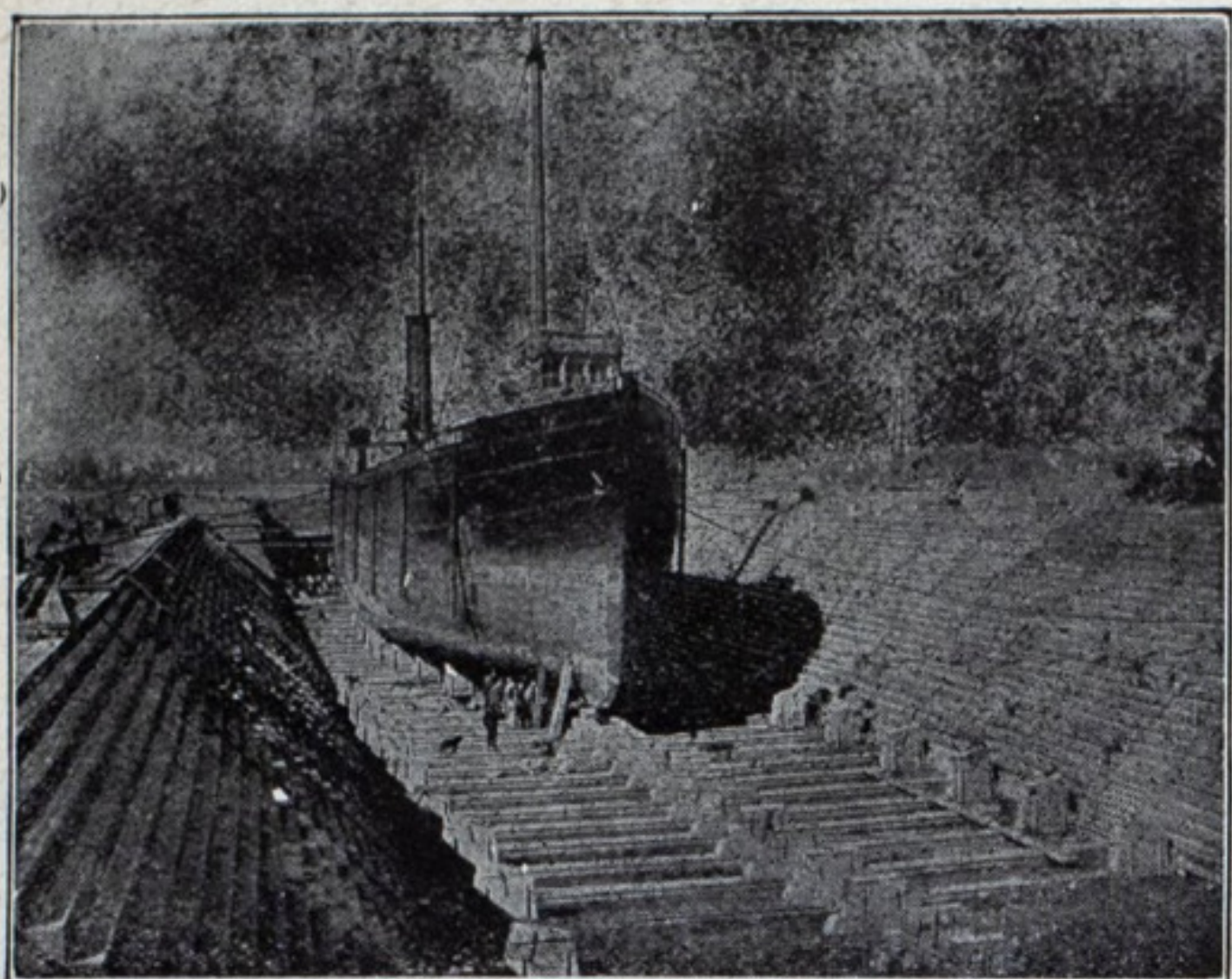
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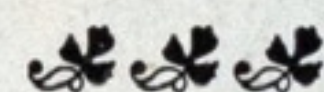
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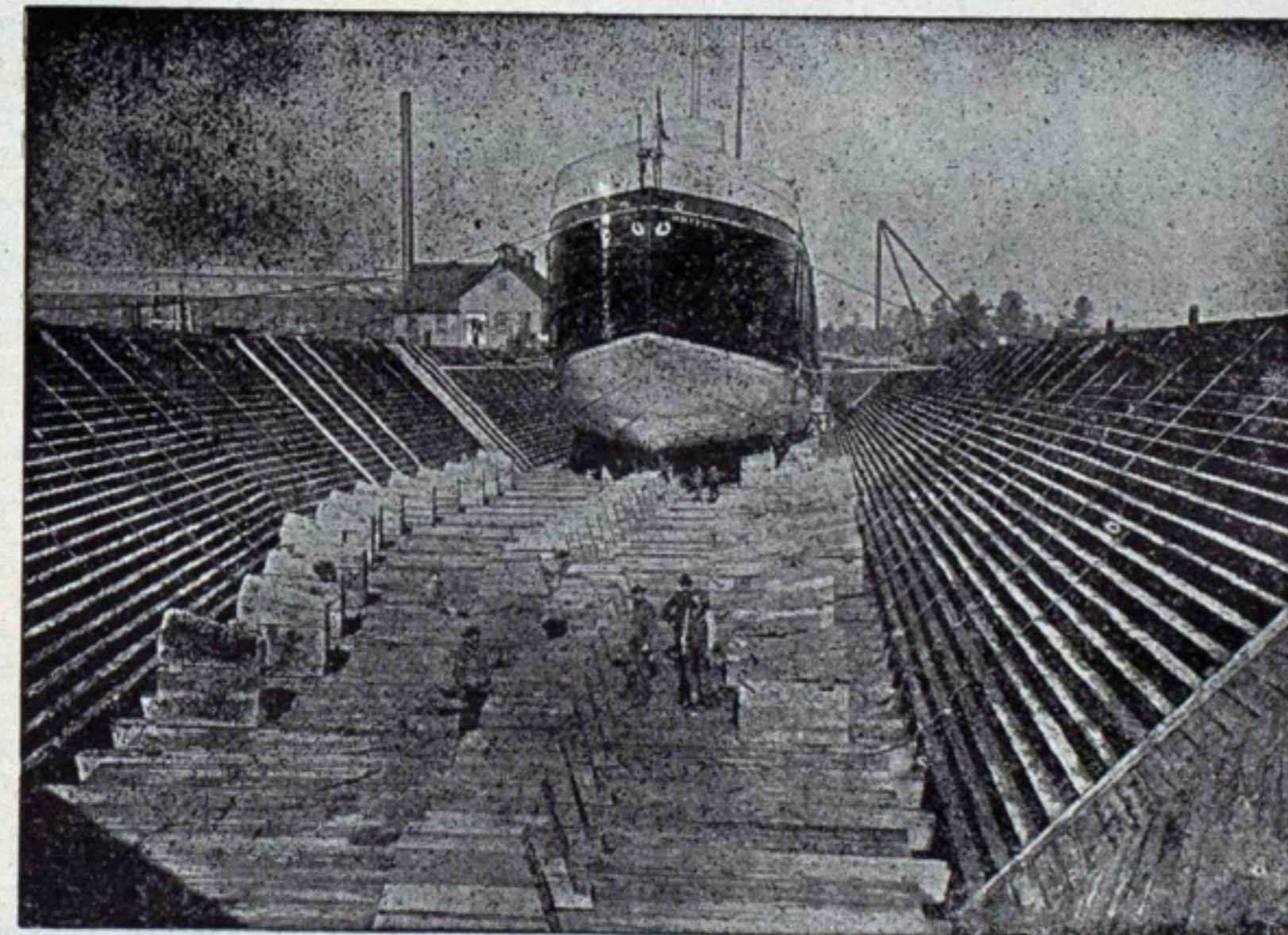
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